JULY, 1954

PRODUCTS finishing

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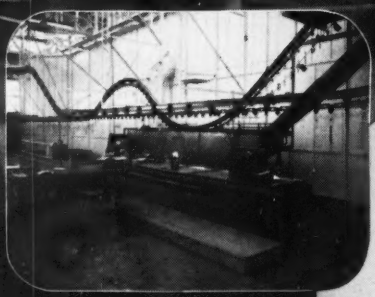
Finishes on *Metal* Products

Dual Cincinnati FINISHING SYSTEMS



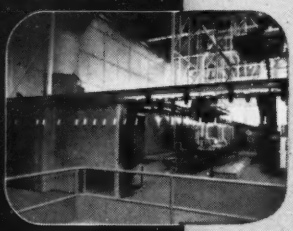
save 60% in time

. . . for noted aircraft manufacturer

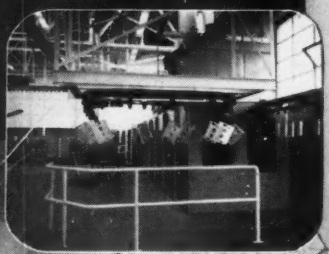
A double conveyor line cleaning and paint finishing system in a well known mid-western aircraft plant handles all sorts of formed aluminum parts up to 15" x 20" in size. Moving at 18 feet per minute, the conveyors carry the parts through the various operations, removing grease, oil and chips prior to painting and assembly.

AUTOMATIC PAINT DIP and CHROMODIZER OPERATIONS:

1. Alkaline Clean
2. 1st Rinse
3. Passivate
4. 2nd Rinse
5. Hot Air Blow-Off
6. Paint Dip
7. Oven Bake
8. Stripper \ For empty con-
9. Rinse / veyor hangers.



Among interesting design features: The arrangement of the system around the outer perimeter of the room, leaves the center clear for storage and loading and unloading operations. The zinc chromate dip tank has a refrigeration system to maintain tank temperature at 74° F., reducing evaporation of volatiles. The system is protected with CO_2 equipment and automatic paint tank dump.



As was done in this installation, Cincinnati Engineers will gladly design equipment to suit your needs. Whatever your cleaning or finishing problems, a survey costs you nothing, may point the way to substantial savings. Write today for booklet: "Finishing Systems."

Cincinnati

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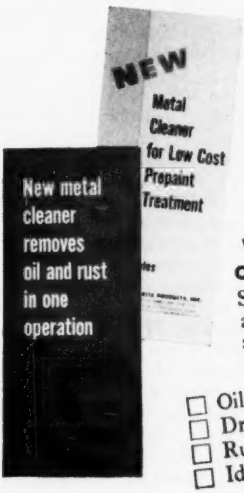
HOW MANY OPERATIONS WHEN YOU PREPARE STEEL FOR PAINTING?

	Operations
Cleaning	1
Rinsing	1
Pickling	1
Rinsing	1
Conditioning	1
Rinsing	1
Drying	1
Total	3

What's wrong with this addition? How can seven operations add up to three operations?

It's easy when you use Oakite Compound No. 33 (or Oakite Compound No. 31) to remove rust or heat scale *at the same time that* it removes oil *at the same time that* it prepares steel (or aluminum) for the lasting adhesion of paint.

That combines cleaning, pickling, and paint conditioning into one operation. After rinsing and drying, you have saved the time, the tanks, the space and the solutions for four operations.



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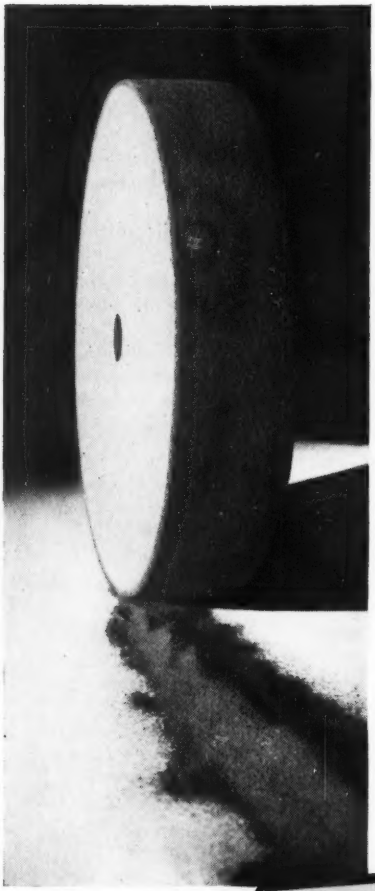

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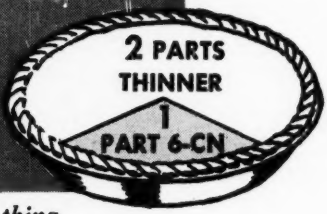

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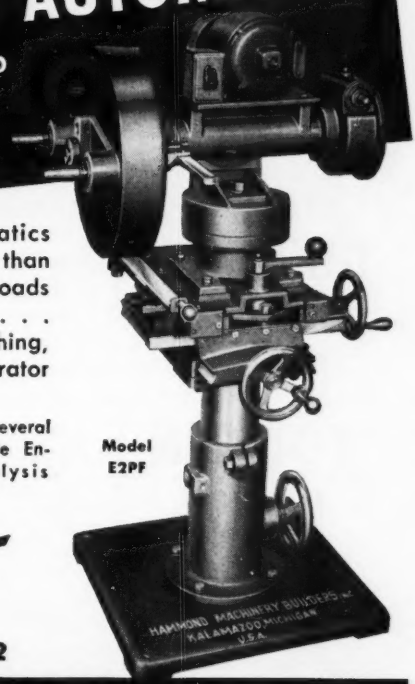

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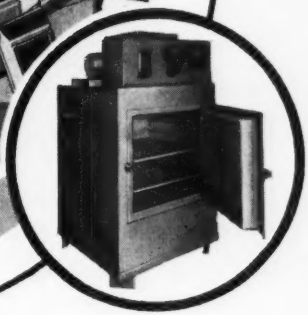

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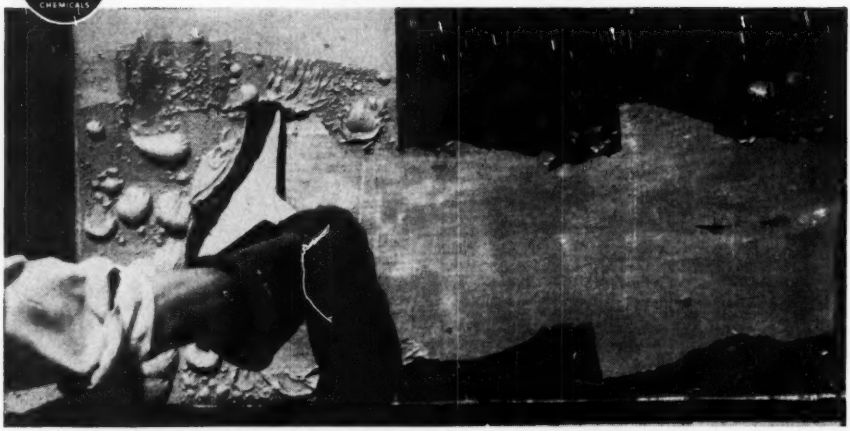

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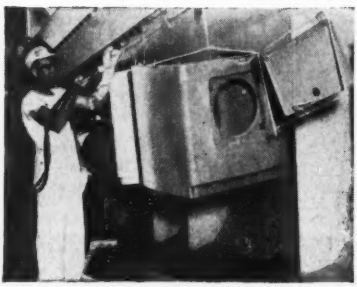

FLOTE — A new and different product that effectively prevents sinking paint sludge and clogging in water wash spray booths . . . eliminates tackiness and backwall buildup. FLOTE handles all organic finishing materials, while cutting operating problems and slashing maintenance costs.

HEDRAL — Prevents adhesion of all types of finishing materials to dry walls of spray booths. HEDRAL is easily sprayed on, does not dry out, and allows removal of overspray in continuous sheets without scraping. It is nontoxic, nonflammable — promotes good housekeeping, minimizes fire hazard.

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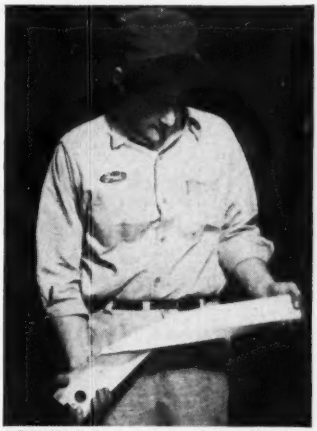

PRE-FOS improves paint adhesion, keeps rejects down.

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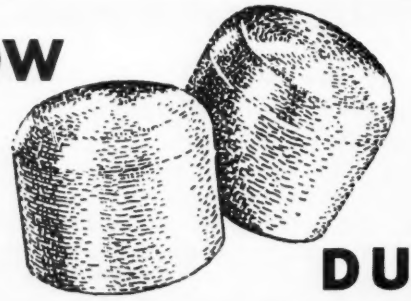

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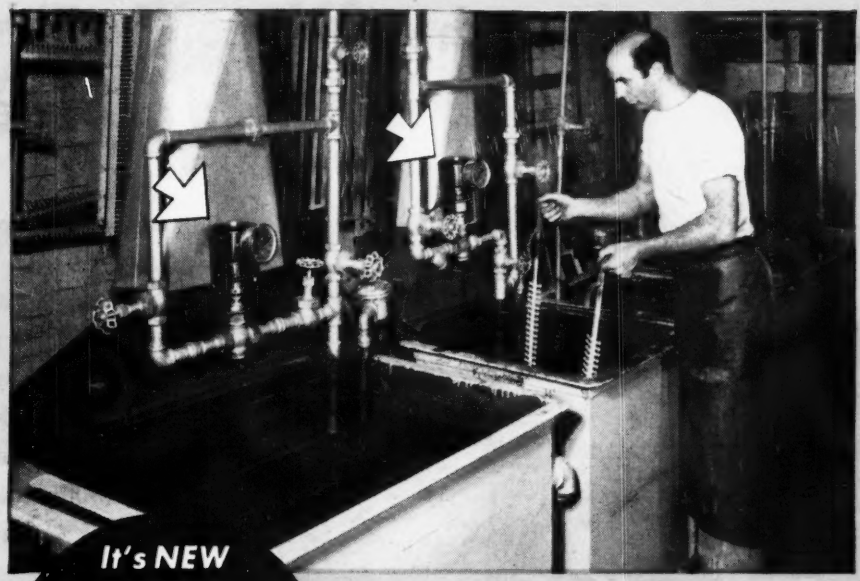

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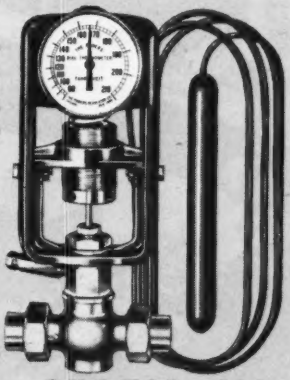

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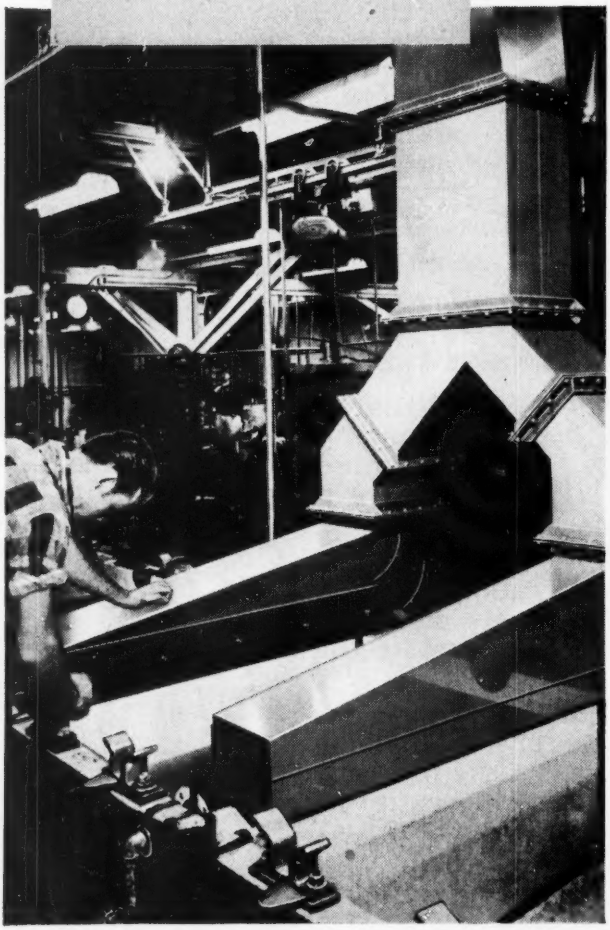
How Exon 402-A wipes out corrosion



The toughest, most corrosion-resistant metals used failed to hold electro-plating acid fumes at Cannon Electric Company, Los Angeles. In 2 months, the solution of 33% nitric, 33% sulfuric acid, and 33% fluoride salts destroyed ducts and tanks.

In June, 1953, Plant Engineer Byron Hill installed a completely new ducting system of Boltaron 6200. It has been in continuous operation ever since. Its present condition is utterly unmarked. Maintenance costs have been wiped out.

Installation by Horace Blackman Co.

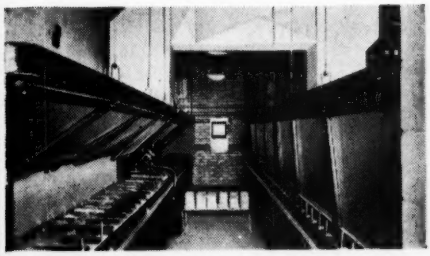
●

Photographs courtesy
H. N. Hartwell & Son, Inc., Boston 16, Mass.

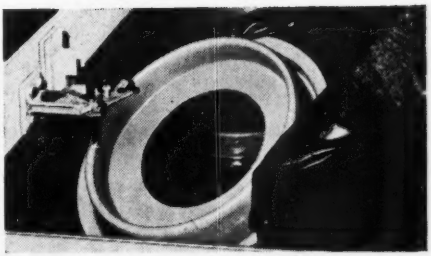
●

NOTE: Firestone supplies the resin only, does not manufacture the end product.

Boltaron 6200

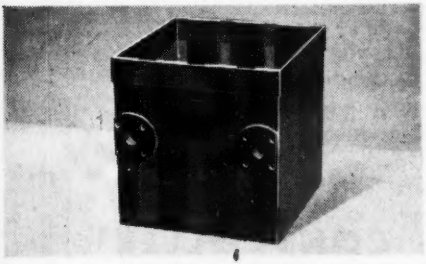


★ For 18 months, sulfuric acid fumes have failed to corrode a Boltaron fume removal system at Electric Storage Battery Company, Fairfield, Conn.



★ A switch to Boltaron 6200 copper-plating rings wiped out corrosion in this equipment at Norris-Thermador Co., Los Angeles. Extremely close tolerances were maintained.

Installation by Horace Blackman Co.



★ Eastman Kodak Co., Rochester, reports that Boltaron 6200 remained completely uncorroded by ferricyanide after 3 years, when no other material lasted 3 months.

Installation by Industrial Plastic Fabricators, Inc.

NEW RIGID, extremely versatile light weight materials are making corrosion a memory in industry all over America. These unplasticized polyvinyl chlorides are typified by Boltaron 6200.

Firestone's Exon 402-A resin meets Boltaron's exacting specifications—best assurance of uniform results under the most corrosive conditions.

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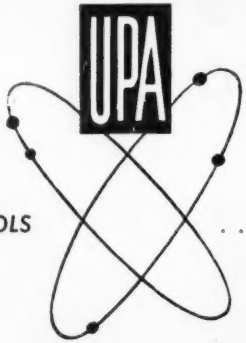

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ELECTRONIC "BRAIN" . . .

FOR THE PLATING INDUSTRY

The newest development in electronic plating equipment brings you the controls of the future . . . today! With Unit Process Assemblies' Automatic Plating Controller, you can eliminate the time lost in setting switches during tank loading or unloading. The A.P.C. automatically adjusts to changing loads. Tank operators waste no time with manual adjustments. One supervisor at any remote location can control all tanks . . . all solutions. The A.P.C. is to plating what "No-Shift" is to driving.

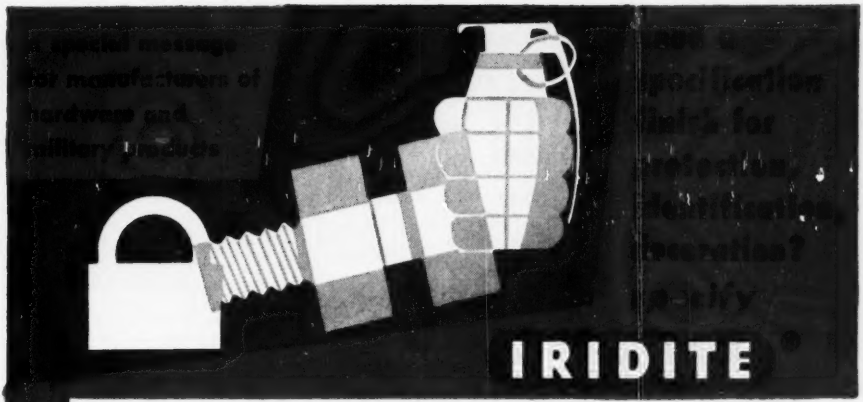
AUTOMATIC PLATING CONTROLLER*

- Automatically controls tank current.
- Eliminates setting of switches during loading.
- Automatically checks if work is added or removed.
- Eliminates "burning" small loads.
- Plates all work at the proper current.
- Adjusts to all loads and all solutions.
- Permits one supervisor to control all tanks.
- Operates at any remote location.
- Gives you control by the "electronic brain" of the future . . . TODAY!

* PATENTS PENDING

UPA UNIT PROCESS ASSEMBLIES, INC.

75 EAST 4TH STREET • NEW YORK 3, N. Y.



Specify Iridite . . . to meet military specs for corrosion protection during use or storage . . . for paint adherence . . . for low cost color coding . . . or to add quality and sparkle to your products. Here's how you can use Iridite:

ON ZINC AND CADMIUM you can get highly corrosion resistant finishes to meet any military or civilian specifications and ranging in appearance from olive drab through sparkling bright and dyed colors.

ON COPPER . . . Iridite brightens copper, keeps it tarnish-free; also lets you drastically cut the cost of copper-chrome plating by reducing the need for buffing.

ON ALUMINUM Iridite gives you a choice of natural aluminum, a golden yellow or dye colored finishes. No special racks. No high temperatures. No long immersion. Process in bulk.

ON MAGNESIUM Iridite provides a highly protective film in deepening shades of brown. No boiling, elaborate cleaning or long immersions.

AND IRIDITE IS EASY TO APPLY. Goes on at room temperature by dip, brush or spray. No electrolysis. No special equipment. No exhausts. No specially trained operators. Single dip for basic coatings. Double dip for dye colors. The protective Iridite coating is not a superimposed film, cannot flake, chip or peel.

WANT TO KNOW MORE? We'll gladly treat samples or send you complete data. Write direct or call in your Iridite Field Engineer. He's listed under "Plating Supplies" in your classified telephone book.

Iridite is approved under government specifications

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INCORPORATED
4004-06 E. MONUMENT STREET • BALTIMORE 5, MD

OPPORTUNITY FOR PROFITS in *your* plant operations

ENGINEERED SERVICE

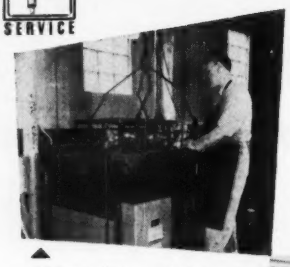
Here's how Phillips Degreasers help manufacturers turn cleaning operations into real profits . . .

Realizing that more metal parts can be cleaned in less time with Phillips vapor degreasers, manufacturers have cut costs and increased profits in their plant operations.

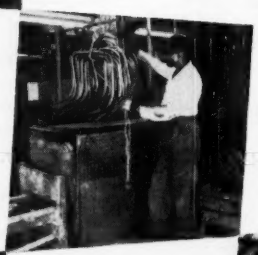
Every man-hour saved in cleaning cuts costs just as well as hours saved in machining, finishing, stamping or any other operation. And with Phillips' modern, all-electric degreasing method, your cleaning costs can be cut as much as 50%.

Here is a real opportunity for new profits due to less costly cleaning. Investigate now. There's a Phillips man in your area. Check with him today or write.

PHILLIPS
VAPOR DEGREASERS

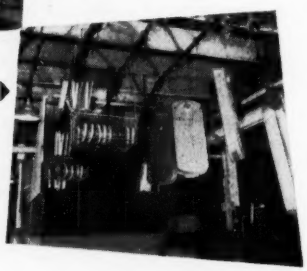


Skil Corporation reports better cleaning of parts plus 3 to 4 times faster cleaning with their Phillips Degreaser.



Bettcher Manufacturing Co., uses a Phillips Degreaser to clean large heater parts for better results at greatly reduced costs.

Arrow Plating Co., Inc., makes use of a Phillips unit to get fast degreasing of tubular metal parts for furniture.



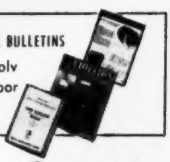
Steger Products Manufacturing Co., also uses a Phillips monorail conveyor type unit built right into their production lines, saving as much as 50 man-hours per day.

PHILLSOLV

. . . the one degreasing solvent that gives you more thorough cleaning . . . of more parts per gallon . . . at less cost.

SEND FOR YOUR COPIES OF THESE HELPFUL BULLETINS

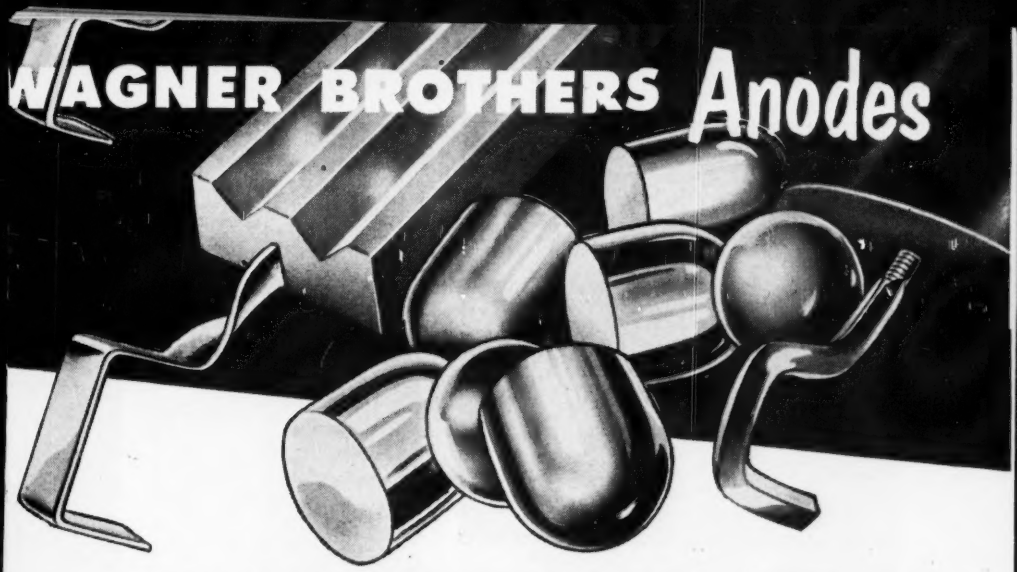
Phillips Vapor Degreasers; Phillsolv Bulletin; and the informative Vapor Degreasing Handbook.



Phillips 3457 TOUHY AVENUE • CHICAGO 45, ILLINOIS
MANUFACTURING COMPANY
ENGINEERED METAL CLEANING EQUIPMENT

"In Canada Phillips' equipment is manufactured under license by Williams Tool Corporation of Canada, Ltd., Brantford, Ont."

WAGNER BROTHERS Anodes



FOR BETTER PLATING FINISHES

NICKEL	Wagner Brothers' Iso-Cast Oval form, cast under the strictest controls which guide our entire anode production to afford best grain size for corrosion in nickel plating bath; available in any length.
OPPER	Flat-Top*, smooth-surfaced, free from dirt, silicon and oxides; greater weight and increased predictability. Wagner Brothers' Iso-Cast Oval, cast from electrolytic copper under rigid controls. Lectrocop†, electrolytic slab, various dimensions.
ZINC	Cast by Wagner's exclusive method in the original Flat-Top* form to provide a smooth surface free of contamination, easily identifiable because of its distinctive form. Also available in Wagner Brothers' Iso-Cast Ovals.
TIN	Available in any length in our corrugated Wagner Brothers' Iso-Cast form with locked-in steel contact hook, in standard balls and Iso-Cast Ovals. We also produce Tin-Lead (15% tin, 85% lead) and Tin-Zinc (80% tin, 20% zinc), same forms.
DMIUM	Available in standard ball form.
BRASS	Various commercial alloys of zinc and copper in both Flat-Top* and Wagner Brothers' Iso-Cast forms.

Wagner Anodes are available in principal areas. Phone or write today for information.

*REGISTERED †TRADE-MARK

agner Brothers Products: Automatics. Semi-Automatics. Precision Hard Chrome Units. Tanks. Filters. tifiers. Anodes. Anode Containers. Tank Linings. Solutions. Supplies.

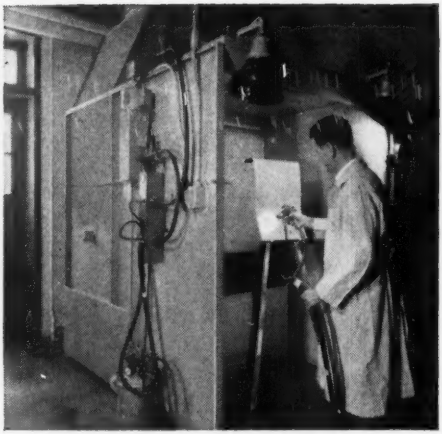
REPRESENTED COAST-TO-COAST

ur *Primary* source for plating and polishing equipment and supplies

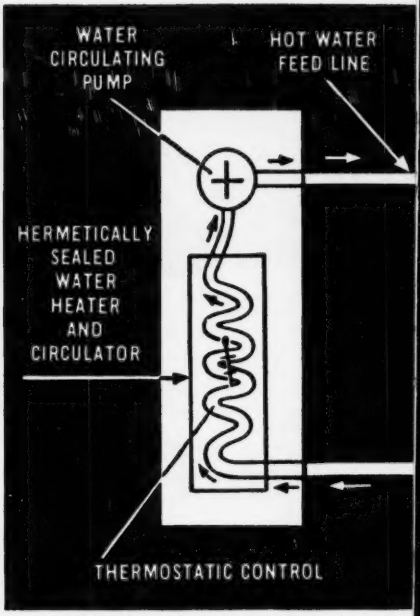
Wagner **BROTHERS, INC.**

432 MIDLAND AVE. • DETROIT 3, MICH.

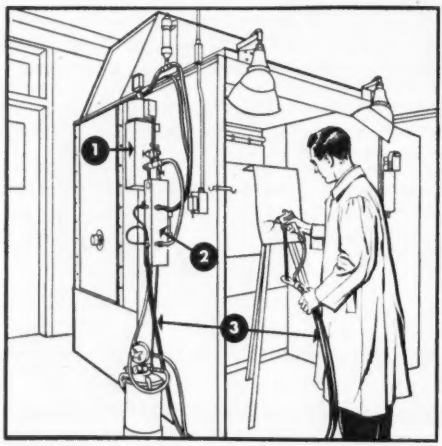
ICAGO • ROCHESTER • CLEVELAND • CINCINNATI • ST. LOUIS • INDIANAPOLIS • NEW YORK



New DeVilbiss Paint Heater offers you these advantages: no clogging, no overheating, no churning of paint, no variable fluid pressures. Adapts easily to multiple colors and spray stations. Safe and easy to clean. Low in price.



New DeVilbiss Paint Heater has three



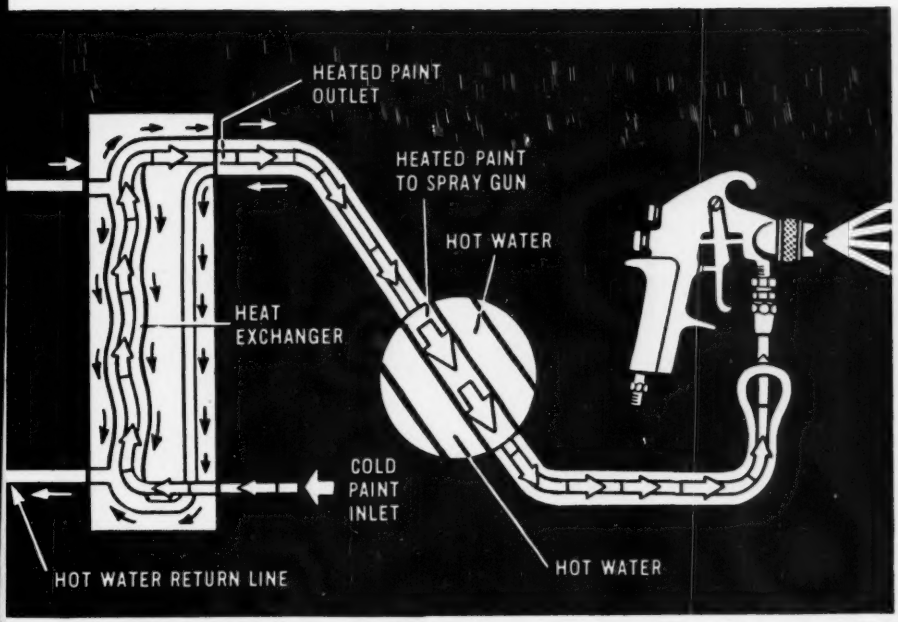
1. Water is heated and circulated by Master Heater. **2.** Hot water heats paint in Heat Exchanger. **3.** Paint is kept hot right up to the spray gun. Hot water circulates through supply-and-return passages in unique heat jacket surrounding hose.

From DeVilbiss

Now! DeVilbiss' new paint heater gives you precision temperature and viscosity control . . . lets you take full advantage of the hot-spray method without paint overheating and constant maintenance.

Paint is heated to exact temperatures, almost instantly, in a revolutionary Heat Exchanger. Kept hot, too – right up to the gun – with an exclusive heat jacketed hose assembly . . . even

BRANCH OFFICES AND DISTRIBUTORS



components: 1. Master Heater, 2. Heat Exchanger, 3. Heat Jacketed Hose Assembly.

. . . a fast, foolproof paint heater!

with extended hose lengths. There's no heater paint pump to wear out!

If you'd like to enjoy the big benefits of hot spraying – better finishes with fewer coats, less paint loss from overspray, no worries about variable room and paint temperatures which affect material viscosity – get complete details about the new DeVilbiss Paint Heater.

Call the nearest DeVilbiss branch office for full details or write us direct. Do it today!

THE DEVILBISS COMPANY
Toledo, Ohio

Santa Clara, Calif. • Barrie, Ontario
London, England

FOR BETTER SERVICE, BUY
DEVILBISS

IN PRINCIPAL CITIES THROUGHOUT THE UNITED STATES, CANADA AND THE WORLD

New Non-Flammable

PEELABLE PLASTIC BOOTH COATING

BY

PELRON®

MAKES PAINT BOOTH OPERATION SAFE!

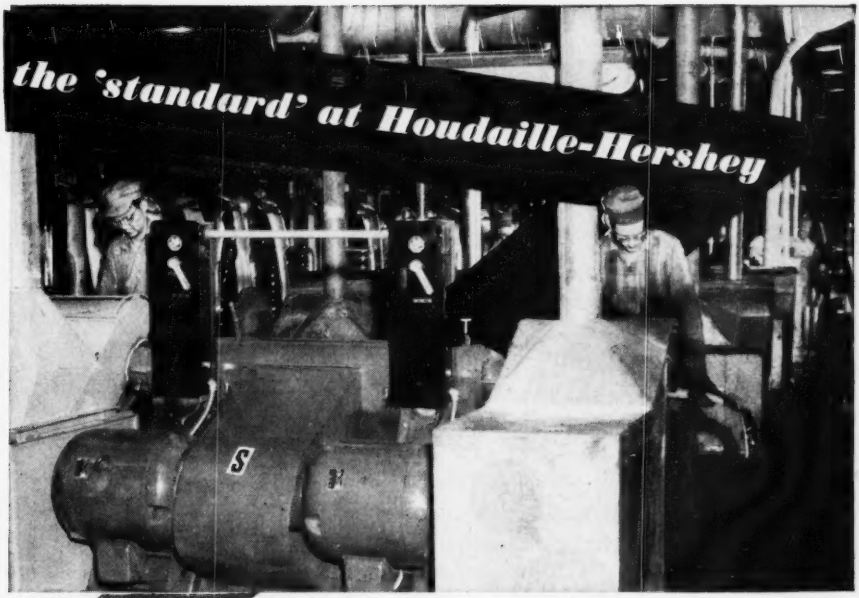
Here is *new* PELRON PLASCOTE 284—a new plastic booth coating that is *non-flammable either as a liquid or as a dry film on the booth.* This means not only greater safety in booth maintenance operations, but also a reduction in insurance costs.

Due to the ease of application and extensive coverage, booth maintenance costs may be reduced by more than 50%. PLASCOTE 284 is shipped ready to use—no premixing necessary—will dry to a tough peelable film in a matter of minutes.

Order a 5 gallon trial quantity *at regular drum price.* Do it now and learn how this revolutionary new coating gives more protection to your employees and plant!

PELRON *Corporation*

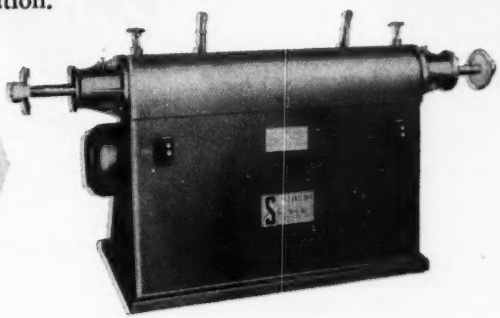
7740 W. 47th Street
Lyons, Illinois
Phone BI shop 2-3166
(Chicago)



Over 50 Standard Type MB2 High Speed Buffers complete the picture of high production polishing and buffing at the Huntington, W. Va. division of the Houdaille-Hershey Corporation.

These Standard MB2 Buffers are equipped with twin motors driving two independent spindles through 3 ball bearings per spindle. Each motor has its own magnetic starter, push button station, shaft lock, multiple V-belt drive and belt tension adjustment. Standard MB2 Buffers are available in sizes ranging from two (2) 3 HP to two (2) 30 HP motors with speeds to your specifications.

Write for Catalogue 44.



Here are results you can count on:

- Higher Production
- Minimum Maintenance
- Longer Wheel Life
- Maximum Economy
- Faster Polishing Operation

Standardize with

the STANDARD electrical tool co.

MACHINE TOOLS

2518 RIVER ROAD • CINCINNATI 4, • OHIO

COWLES INTRODUCES NEW

ZINC PHOSPHATE COATINGS

Send for this folder—it gives you all the facts about the first new zinc phosphate coatings to be introduced to industry in more than twenty years.

Your Cowles Technical Man will gladly give you complete technical information about Cowles Ty-Bond coatings and also the complete line of industrial metal cleaners.

COWLES CHEMICAL COMPANY
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☐ Please send your new folder "Cowles TY-BOND"
☐ Arrange to have your Cowles Technical Man see me about _____ (DATE)

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

Pf editorial

Vol. 18, No. 10

JULY, 1954

New Applications--New Markets

At the recent Annual Convention of the Institute of Cooking and Heating Appliance Manufacturers one manufacturer commented, "There is plenty of money available for purchase of home appliances; all that is needed is the creation of an incentive to buy." What better way to create new interest in a product than with a novel finish or combination of finishes? This highlights the Finishing Industry's opportunity and responsibility to contribute to general business progress.

Versatility has always been characteristic of electroplaters and paint finishers. Faced as they are with such a variety of finishing materials and methods, they are daily presented not only with the challenge of using available finishes in new combinations to achieve new decorative effects, but also with the problem of finding new applications or uses for finishes and so expanding their businesses—and the Finishing Industry.

Adapting a finishing method to a new product is not always simple. Certain modifications in method and material may have to be made. It may be necessary to compromise on certain characteristics of the end result. But new uses for finishes and finishing materials can be found only if finishers search for them aggressively.

Business, like gold, is where you find it. It may be in your own back yard. But to find it, you have to dig.

Ezra A. Blount
—EDITOR

41st A. E. S. Convention

JUL[illegible]15

HO[illegible]ER

NEW YORK CITY

George Schore
General Chairman

Welcome: *The city in which Charles Proctor in 1909 started what was to become the American Electroplaters' Society, welcomes the opportunity to play host to the 41st Annual Convention.*

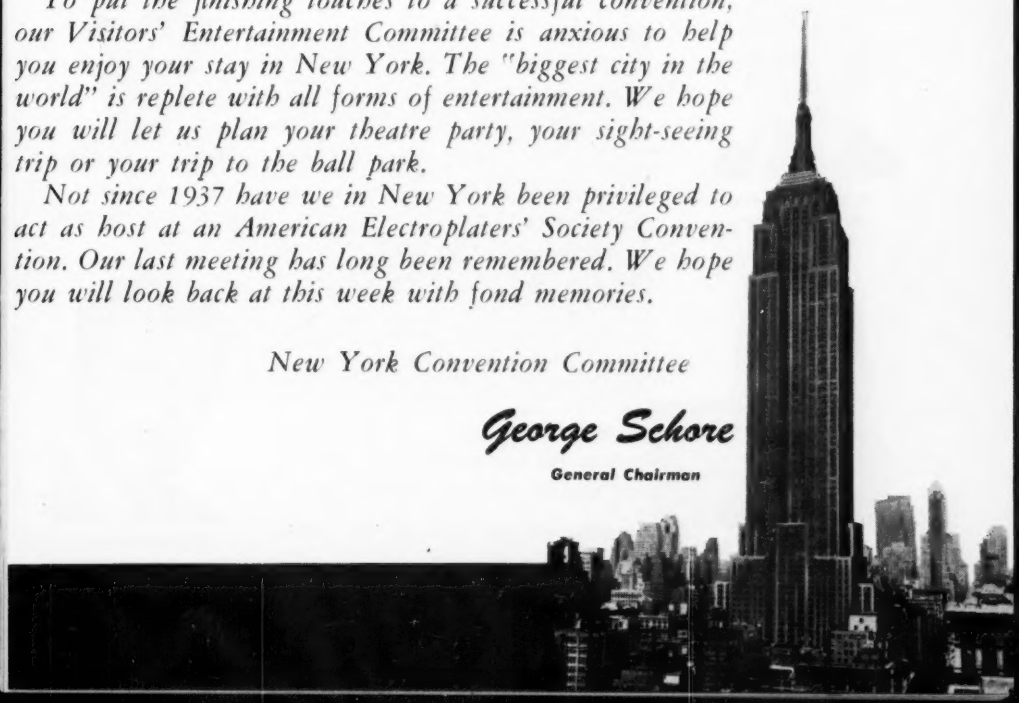
For some three years past, we have been planning to present educational sessions which would surpass any given at previous conventions. All fields with which the electroplater finds himself associated are being covered. Modern techniques of application and theory will be discussed in full.

To put the finishing touches to a successful convention, our Visitors' Entertainment Committee is anxious to help you enjoy your stay in New York. The "biggest city in the world" is replete with all forms of entertainment. We hope you will let us plan your theatre party, your sight-seeing trip or your trip to the ball park.

Not since 1937 have we in New York been privileged to act as host at an American Electroplaters' Society Convention. Our last meeting has long been remembered. We hope you will look back at this week with fond memories.

New York Convention Committee

George Schore
General Chairman



A. E. S. Officers

George P. Swift
President

F. J. MacStoker
Past President

Samuel Heiman
Third Vice President

CONVENTION REGISTRATION INFORMATION

(Eastern Daylight Saving Time)

CONVENTION REGISTRATION is located outside Grand Ballroom on the Mezzanine Floor.

Sunday, July 11.....
..... 1:00 P. M.— 8:00 P. M.
Monday, July 12.....
..... 8:00 A.M.— 5:00 P. M.
Tuesday, July 13.....
..... 8:00 A.M.— 4:00 P. M.
Wednesday, July 14.....
..... 8:00 A.M.—12:00 Noon
Thursday, July 15.....
..... 8:00 A.M.—12:00 Noon

The registration fee of $20.00 provides each registrant with a book of tickets covering all events.

Table reservations for the Banquet on Thursday, July 15, should be made in advance at the Banquet Reservation Desk on the Mezzanine Floor, starting Wednesday, July 14, at 9:00 A.M.

All events will be held in The Statler unless otherwise noted.

R. A. Schaefer
First Vice President

Clyde Kelly
Second Vice President

P. Peter Kovatis
Executive Secretary

again congratulations

We at Udylite are again happy to extend congratulations to the members of the American Electroplaters Society on the eve of your 1954 Convention.

As your society has grown, so has the Industry and Udylite . . . and we take this opportunity to express our gratitude for the many outstanding contributions you have made in the past, which have in no small measure helped us in our growth.

Udylite wishes you a very successful convention.

THE Udylite CORPORATION
DETROIT 11, MICHIGAN

Convention

Sunday, July 11

10:00 A.M.—A.E.S. Executive Board Meeting in the Executive Secretary's suite.

10:00 A.M.—National Association of Metal Finishers, Meeting with Business and Defense Services Administration representative.

12:00 Noon—Metal Finishing Suppliers' Association, Inc., Luncheon—Empire Suite.

2:00 P. M.—Metal Finishing Suppliers' Association, Inc., Board of Directors' Meeting—Empire Suite.

2:00 P. M.—National Association of Metal Finishers, Inc., Annual Meeting—Town Room.

9:00 P. M.—Film, "The Twenty-Four Dollar Purchase," Terry Manos, documentary on New York City. Winner of many national and local prizes on cinematography—Georgian Room.

10:00 P. M.—Get-Together Party, to greet early-comers. Refreshments—Grand Ballroom.

Monday, July 12

10:00 A.M.—Opening Session and Business Meeting—Grand Ballroom.

12:00 Noon—Branch Secretaries' Luncheon—Town Room.

12:00 Noon—Metal Finishing Suppliers' Association, Inc., Luncheon, Meeting—Georgian Room.

12:00 Noon—Speakers' Luncheon—Manhattan Room.

2:00 P. M.—First Educational Session—Grand Ballroom.

6:30 P. M.—Past Presidents' Dinner — Past Presidents and Wives are guests of the New York Branch—Sky Top.

9:00 P. M.—International Fellowship Club Open House—Grand Ballroom.

Sponsored by the Metal Finishing Suppliers' Association, Inc. Refreshments, dancing. Buffet served at 10:30 P.M. Admission by ticket.

Tuesday, July 13

8:00 A.M.—Speakers' Breakfast—Manhattan Room.

8:00 A.M.—Michigan State Alumni Breakfast—Penn Top North.

9:00 A.M.—Second Educational Session—Georgian Room.

Timetable

9:00 A.M.—Second Management Seminar, National Federation of Metal Finishers—Sky Top.

12:30 P. M.—Luncheon to all male registrants of convention—Grand Ballroom.

"Modern Techniques in Aluminum Treatment," by Henry Walker, consultant.

Professor La Yellk talks on, "Plating in U. S. S. R."

2:00 P. M.—Third Educational Session—Grand Ballroom.

2:00 P. M.—Second Management Seminar, National Federation of Metal Finishers—Sky Top.

7:00 P. M.—National Federation of Metal Finishers Banquet—Sky Top.

Wednesday, July 14

8:00 A.M.—Speakers' Breakfast—Manhattan Room.

9:00 A.M.—Fourth Educational Session—Grand Ballroom.

1:00 P. M.—Outing on the Hudson River Steamer "Liberty Belle."

Leaves 41st Street Pier at 1:00 P.M. Buses start leaving hotel at noon for wharf. Entertainment and dancing as well as Boat Ride provided by Frederick Gumm Chemical Co., Inc. Catered Luncheon will be provided on board steamer. Boat will return at 6:00 P.M.

2:00 P. M.—Editorial Board will hold committee meeting on board "Liberty Belle."

8:00 P. M.—Research Committee Meeting—Executive Secretary's Suite.

Thursday, July 15

8:00 A.M.—Research Committee Breakfast—Town Room.

8:00 A.M.—Speakers' Breakfast—Manhattan Room.

9:00 A.M.—Fifth Educational Session—Grand Ballroom.

10:00 A.M.—Annual Golf Tournament—Metal Finishing Suppliers' Association—Forest Hill Field Club, Bloomfield, N. J.

2:00 P. M.—Final Business Session, American Electroplaters' Society—Grand Ballroom.

7:00 P. M.—Annual Banquet—Grand Ballroom.

Admission only by reservation ticket. In order to be served, your registration book ticket must be exchanged for a special Banquet ticket bearing a table reservation. Ticket exchange starts Wednesday at 9:00 A.M. at Banquet Reservation Desk outside Grand Ballroom. Superb cuisine, all Broadway stage show, continuous dancing till the wee hours. Prizes and awards given at dance.

Barbara Schore

Ladies:

The largest city in the world bids you welcome. We, of the committee, have prepared a program in which we may present many of the outstanding features of New York.

For three years, we have been visiting with you in your own branches, to determine what would be of interest to you during your visit with us.

New York, the entertainment capital of the world, opens its arms and bids you let us show you its historic sites, theatres, radio and television shows, its ball parks; it also bids you visit the Statue of Liberty, United Nations Building, Wall Street, Chinatown and other land sites of which we are justly proud.

We hope your stay will be most enjoyable and pledge ourselves to devote our efforts to this end.

Please accept our most sincere welcome to this the Forty-First Annual Convention of the American Electroplaters' Society.

The Ladies' Committee

Barbara Schore

Ladies' Program

Sunday, July 11

9:00 P. M.—Film, "The Twenty-Four Dollar Purchase." Terry Manos, documentary on New York City—Georgian Room.

10:00 P. M.—Get-Together Party for early-comers. Refreshments. Grand Ballroom.

Monday, July 12

10:00 A.M.—Opening Session and Business Meeting—Grand Ballroom.

1:00 P. M.—Buffet Luncheon and Talk—Penn Top North.

Luncheon sponsored jointly by Lea Manufacturing Co., Wagner Brothers, Inc., and F. L. and J. C. Codman Company. Talk by Dr. A. E. Alexander, assistant treasurer, Tiffany and Company, New York City.

9:00 P. M.—International Fellowship Club Open House.—Grand Ballroom.

Sponsored by the Metal Finishing Suppliers' Association, Inc. Refreshments, Dancing, one of the foremost bands in the country. Buffet served at 10:30 P.M.

Tuesday, July 13

Oakite Products, Inc., will sponsor the "Aunt Ella Party."
Host: Dave Clarin.

Buses will leave hotel at 11:30 A.M. for Tavern on the Green in Central Park, where luncheon will be served at 12:15 P.M. Admission by ticket.

8:45 P. M.—Theatre Party—Sponsored by the Udylite Corporation.

Ladies will turn in tickets in book for theatre tickets to Broadway show, starting Monday afternoon outside Grand Ballroom. On Tuesday tickets may be exchanged at the Ladies' Tea. Udylite Corporation will furnish tickets to leading Broadway plays.

Wednesday, July 14

1:00 P. M.—Outing on the Hudson River, Steamer "Liberty Belle."

Leaves 41st Street Pier at 1:00 P.M. Buses start leaving hotel at noon for wharf. Entertainment and dancing as well as Boat Ride provided by Frederick Gumm Chemical Co., Inc. Catered Luncheon will be provided on Board Steamer. Boat will return at 6:00 P.M.

Thursday, July 15

9:00 A.M.—Tour through United Nations Building.

Tour and trip sponsored by Bart-Messing Corp. and Sel-Rex Corp.

2:30 P. M.—Plato Party—Penn Top North.
Hostess: Joan T. Wiarda.

Prizes galore. New York Branch Ladies' gift will be distribtued at this party.

7:00 P. M.—Annual Banquet—Grand Ballroom.

Admission only by reservation ticket. In order to be served, your registration book ticket must be exchanged for a special Banquet ticket bearing a table reservation. Ticket Exchange starts Wednesday at 9:00 A.M. at Banquet Reservation Desk outside Grand Ballroom. Superb cuisine, all Broadway stage show, continuous dancing till the wee hours. Prizes and awards given at dance.

During the entire Convention, the Rapid Electric Company will donate fresh flowers to the ladies.

Geo. Cooperman

Plated Ware Exhibits

Keeping with the custom of previous conventions, we have prepared an excellent display of finishes and plated ware. Branches, companies and individuals have spent considerable time and effort to prepare an outstanding display showing results of educational and practical techniques in metal finishing.

Prizes and awards will be made for individual and branch displays. A visit to the Plated Ware Exhibit located on the Mezzanine Floor will be worthwhile.

Branch Exhibits Committee

George Cooperman
Chairman

Marianno Ranno

Visitors' Entertainment

The convention committee decided to make arrangements for a most successful social meeting by creating the Visitors' Entertainment Committee.

The duties of this committee are exactly as the name specifies; namely, to prepare for theatre or dinner parties, visits to the ball games, sight-seeing tours, fishing trips, visits to radio or television shows or any other type of entertainment in the City.

Remember when you get to New York, ask for "Moe."

Visitors' Entertainment Committee

Marianno Ranno
Chairman

A.E.S. Convention Committees

General Chairman—George Schore.

Advisory—Franklyn J. MacStoker, Dr. Louis Cates, Alexander N. Braun, Ralph J. Liguori.

Ladies' Committee — Mrs. Barbara Schore, Chairman, Mrs. Ethel Braun, Mrs. Molly Cates, Mrs. Betty Cinamon, Mrs. Yolande Fusco, Mrs. Edith Goldwasser, Mrs. Mildred Hartshorn, Mrs. Winnie Herrmann, Mrs. Margaret MacStoker, Mrs. Bess Nadel, Mrs. Rose Schneidt.

Hotel and Banquet Co-Chairmen—Angelo Amatore, George Herrmann.

Entertainment—James L. Clifford.

Educational—Milton Nadel.

Publicity Co-Chairmen—Thomas Trumbour, John Trumbour.

Registration Co-Chairmen—Alfred Fusco, Martin Maher, Jr.

Pre-Convention Journal Co-Chairmen—Derick Hartshorn, Jr., Peter Veit.

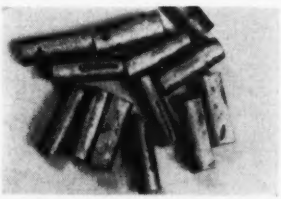
Liaison Among Committees — Irving Goldwasser.

Secretary and Program—Lester Levinson.

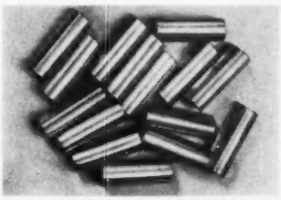
Branch Exhibits—George Cooperman.

Visitors' Entertainment—Mariano Ranno.

Outing—Philip Bruno.



BEFORE PRESSURE-BLASTING



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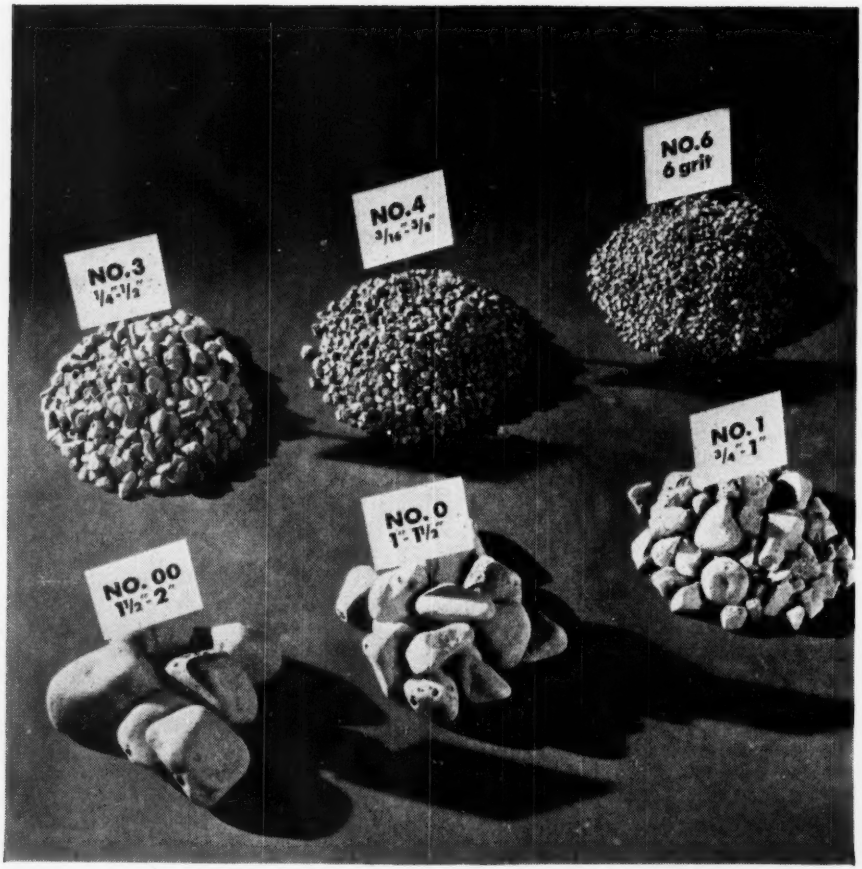

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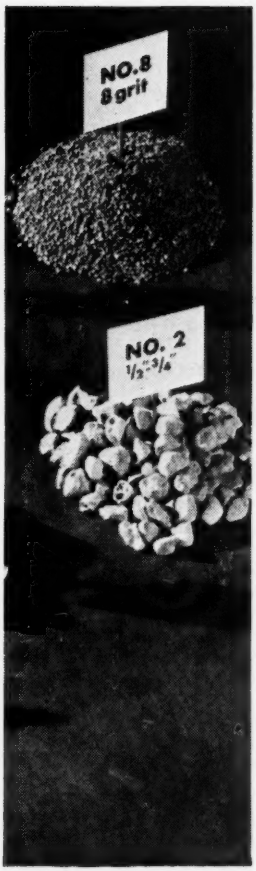

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J. J. Duffy, Jr.

Metal Finishing Suppliers' Association Annual Golf Tournament

The Metal Finishing Suppliers' Association will sponsor once again the annual golf tournament held during the American Electroplaters' Society Convention. The site of the tournament this year will be the Forest Hill Field Club in Bloomfield, N. J. Date, Thursday, July 15th.

Specific information about transportation, tee-off times, and other arrangements can be obtained at headquarters during the convention or by contacting any of the members of the committee, John Gumm, Jim Clifford or Joe Duffy.

J. J. Duffy, Jr.
Golf Chairman

Places To Eat in New York

Absinthe House, 103 W. 48th St.
Acropolis Restaurant, 312 W. 58th St.
Armando's, 54 E. 55th St.
Boulevard De Paris, 117 E. 60th St.
The Brass Rail, 745 Seventh Ave.
The Brauhaus, 249 E. 86th St.
Brussels Restaurant, 115 E. 54th St.
Cafe Rouge, Hotel Statler
The Captain's Table, 410 Sixth Ave.
Chambord Restaurant, 803 Third Ave.
Chateau Madrid, 42 W. 58th St.
Childs, 1551 Broadway
Copacabana, 10 E. 60th St.
Copain Restaurant, 1st Ave. & 50th St.
Delmonico's, 56 Beaver St.
Jack Dempsey's, 1619 Broadway
Dubrow's Cafeteria, 515 Seventh Ave.
The Embers, 161 E. 54th St.
House of Chan, 7th Ave. & 52nd St.
Karachi Indian Restaurant, 144 W. 46th St.
Keen's English Chop House, 72 W. 36th St.
The King of the Sea, 879 Third Ave.
The Latin Quarter, 200 W. 48th St.
LeChanteclair, 18 E. 49th St.
Lee's Chinese, 36 Pell St.
Leone's Restaurant, 239 W. 48th St.
LeRuban Bleu, 4 E. 56th St.
Lindy's, 1655 Broadway
McGinnis' Broadway, Bdwy. at 48th
Majors Cabin Grill, 35 W. 33rd St.
Dinty Moore's, 216 W. 46th St.
Pen & Pencil, 205 E. 45th St.
Red Coach Grill, 7 E. 58th St.
Sardi's, 234 W. 44th St.
Al Schacht's, 102 E. 52nd St.
Toots Shor, 51 W. 51st St.
Steinberg's Dairy Restaurant, 2270 Broadway
Stork Club, 3 E. 53rd St.
Stouffer's, 540 Fifth Ave.
Swiss Pavilion, 38 E. 50th St.
Tavern on the Green, Central Park
Tokyo Sukiyaki House, 144 W. 55th St.
White Turkey, 260 Madison Ave.
Wivel Smorgasbord, 254 W. 54th St.
Xochitl Mexican, 146 W. 46th St.

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HAVE 40% INCREASED STACK AREA . . . . . .

PREVENT OVERLOAD—Electrical overloads and over-heating are avoided by ample rectifying stack area. The *new* Wagner Brothers selenium rectifiers offer you an *unprecedented* 5.4 square inches of rectifying surface per ampere. We've always rated conservatively, as the year-after-year performance of our previous models will testify. But this 40% increase sets new standards of operating efficiency and reduces your maintenance costs to a record low in electroplating history.

PEAK EFFICIENCY—Excess heating greatly decreases rectifier service life. This conservative Wagner stack design, more plates, greater surface, avoids high temperatures. And in addition, thermal overloads on magnetic contactors protect the equipment should a continued heavy overload occur. Our rugged transformers are especially built for our requirements, and insulated with the highest quality non-flammable insulating materials such as glass, mica and asbestos.

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2,000-50,000 amps. Forced-air, fan-cooled type operates at all commonly used voltages. Requires only input and output connections for operation.

WATER COOLED

1,500-50,000 amps. An air circulating system with a heat exchanger, uses your regular water supply (which can then be used for rinse tanks) as a heat removing medium. Functions well under corrosive atmospheric conditions, or where high ambient temperatures are encountered.

SMALL PACKAGE

250-2,000 amps. Fan-cooled with exhaust from the top of the cabinet. Very compact to facilitate moving. Equipped with ammeter, voltmeter, shunt, starting equipment and regulation if required. Only 3 wires for connection.

CUBICLE

To 1,500 amps. Designed for the building block type of operation, since the horizontal flow of cool air permits stacking. The addition or subtraction of total current output is easily accomplished.

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Angelo Amatore

Forty-Fifth Birthday

New York Branch is celebrating its forty-fifth birthday this year while being host to the 41st Annual Convention of the American Electroplaters' Society. We, of New York, have spent three long years preparing what we know will long be remembered as one of the outstanding conventions of the Society.

The list of papers and authors, authors who are noted authorities in their particular fields, gives promise of a most successful educational session.

We hope you will take advantage of our Visitors' Entertainment Committee for whatever social requirements you may have.

New York extends an invitation to you to help us celebrate forty-five years of active participation in an idea begun by Charles Proctor in 1909.

Angelo Amatore,

President, New York Branch
American Electroplaters' Society.

Milton Nadel,
Educational
Chairman

Educational Program

Earl W. Arnold

FIRST SESSION { **Monday Afternoon, July 12, 2:00 P.M.**
Earl W. Arnold, Los Angeles Branch Presiding

1—"Leveling Studies in Cyanide and Acid Copper Plating Solutions."
By BARNET D. OSTROW and FRED I. NOBEL, Lea-Ronal, Inc., Long Island City, N. Y.

2—"Industrial Applications for Metallized Non-Conductors."
By DR. HAROLD NARCUS, Electrochemical Industries, Worcester, Mass.

3—"Modern Industrial Paint Strippers."
By RUBIN OPEROWSKY, Chemclean Products Corp., New York, N. Y.

4—"Servo Control in the Electropolishing of Wire and Strip."
By A. KORBELAK, Editor, "Plating" Magazine, and C. M. RIVELY, Westinghouse Electric Corp., Bloomfield, N. J.

5—"Some Considerations of Importance in Ball Burnishing."
By A. S. KOHLER, Frederick Gumm Chemical Co., Kearny, N. J.

Abstracts of Preceding Papers

Leveling Studies in Cyanide and Acid Copper Plating Solutions, by *Barnet D. Ostrow and Fred I. Nobel.*
Leveling in copper deposits from high speed cyanide solutions and from acid sulfate plating solutions is discussed. Results of tests using the Brush Surface Analyzer are presented. Effects of variables—such as solution composition, current density, temperature, addition agents, and impurities are discussed. Many addition agents are studied and results given.

Industrial Applications for Metallized Non-Conductors, *by Dr. Harold Narcus.*
The paper covers the techniques involved in the field of metallized coatings for industrial purposes, presents several specially prepared solution formulations, and discusses the required deviations from the conventional electroplating procedures to achieve acceptable results. Uses for metallized non-conductors—specifically plastics, glass, quartz and ceramics —in the fields of printed circuitry, electroforming, and electronics are described.

Modern Industrial Paint Strippers, *by Rubin Operowsky.*
Industrial paint stripping has become a major operation in manufacturing and job finishing plants. The need for economy and speed has resulted in the development of rapid paint strippers. Chemical composition and formulations are given.

Servo Control in the Electropolishing of Wire and Strip, *by A. Korbelak and C. M. Rively.*
The paper describes the process and equipment used in the continuous electropolishing of wire and strip. The authors describe the straight line method which they have used successfully in production to produce a wire of uniformity not attainable by the use of previous techniques. Wire is first electropolished, then measured by an electronic system.

Some Considerations Of Importance in Ball Burnishing. *by A. S. Kohler.*
This paper presents a detailed description of various factors which are of material importance in obtaining a brilliant metallic finish in barrel burnishing operations.

E. J. Roehl

SECOND SESSION — Tuesday Morning, July 13, 9:00 A.M.
E. J. Roehl, Cleveland Branch Presiding

1—"Determination of Free Cyanide and Zinc in Zinc Cyanide Solutions."
By DR. R. F. MURACA, Lehigh University.

2—"Nickel Plating from the Sulfamate Bath."
By RICHARD C. BARRETT, Barrett Chemical Products Company, Shelton, Conn.

3—"Electrochemical Corrosion Tests."
By W. L. PINNER and W. J. PIERCE, Houdaille-Hershey Corporation, Detroit, Mich.

4—"A New Instrument for Measuring Stress in Electrodeposits."
By JOSEPH B. KUSHNER, Joseph B. Kushner Electroplating School, Stroudsburg, Pa.

5—"Effects of Iron on the Physical Properties of Nickel."
By L. H. CURKIN and R. W. MOELLER, Pratt and Whitney Aircraft Company, East Hartford, Conn.

6—"Copper-Tin Alloy Plating."
By DR. CHARLES L. FAUST and WILLIAM H. SAFRANEK, Battelle Memorial Institute, Columbus, Ohio.

Abstracts of Preceding Papers

Determination of Free Cyanide and Zinc in Zinc Cyanide Solutions, *by Dr. R. F. Muraca.*
This paper discusses definitions of the free cyanide content of an alkaline zinc plating bath and proceeds to show that present methods of analysis are laborious and inadequate. This is followed by a discussion of a simple, direct argentiometric procedure which will give the free cyanide content of alkaline zinc plating baths. Then the paper describes a procedure for determining the zinc content of the sample that was used for the free cyanide.

Nickel Plating from the Sulfamate Bath, *by Richard C. Barrett.*
Historical development of the sulfamate nickel plating bath is discussed and a basic composition of a commercial bath of five years experience is presented. Particular attention is focussed upon the stress-free character of nickel deposits obtained from the sulfamate bath along with data on other physical properties. Specialized applications concerned with heavy metal deposition under controlled specifications include aspects of electroplating nickel in the electrotyping, electroforming, phonograph record and aircraft industries. Control, maintenance, operating techniques and other data on the sulfamate nickel plating bath are described.

Electrochemical Corrosion Tests, *by W. L. Pinner and W. J. Pierce.*
A new accelerated corrosion test for electrodeposited metallic coatings, developed primarily as a research tool, is described. The test, which is electrochemical in nature, has been shown to closely predict service behavior. It has potential adaptation as an accepted test.

A New Instrument for Measuring Stress in Electrodeposits, *by Joseph B. Kushner.*
An accurate, simple and rapid method and apparatus for the measurement of stress in electrodeposited metals is described. The apparatus is self contained, simple and rugged. It can be used for control purposes right in the plating tank or for research.

Effects of Iron on the Physical Properties of Nickel, *by L. H. Curkin and R. W. Moeller.*
Stress was intentionally increased in a Watts type nickel plating solution by addition of fractional gram portions of ferrous chloride. Rotating beam fatigue specimens (R. R. Moore) plated with 0.0003 inch nickel under these conditions showed reduction in fatigue life directly proportional to the residual stress measured on test pieces plated concurrently.

Copper-Tin Alloy Plating, *by Dr. Charles L. Faust and William H. Safranek.*

A new process for plating copper-tin alloy gives leveling type plates that smooth rough basis metal surfaces as much as sixty per cent per 0.0001 inch of plate. The leveling ability of the alloy deposit is considerably influenced by the tin content. The combination of good leveling power and corrosion protection ability makes copper-tin plates attractive for many decorative applications. Throwing power is an important feature of the bath.

THIRD SESSION — Tuesday Afternoon, July 13, 2:00 P.M. Francis T. Eddy, Waterbury Branch Presiding

Francis T. Eddy

1—"Report by Chairman of A.E.S. Research Committee."
By DR. EARL J. SERFASS, Lehigh University.

2—"Stress in Chromium Electrodeposits"
By A. C. TULUMELLO, DR. E. J. SEYB, and DR. J. E. STARECK, United Chromium, Inc., Detroit, Mich.

3—"Taper Sectioning of Basis Metal Surfaces and Electrodeposits" (A.E.S. Research Project No. 14).
By DR. A. E. R. WESTMAN and DR. F. A. MOHRNHEIM, Ontario Research Foundation, Toronto, Ont., Canada.

4—"A Practical Application of Electroless Nickel Plating."
By JOHN D. MacLEAN and SEYMOUR KARTEN, Bulova Watch Company, New York, N. Y.

5—"Corrosion Protection of Modern Aircraft."
By W. F. CASTELL, Lockheed Aircraft Corp., Burbank, Calif.

6—"Disposal of Plating Wastes at Oneida Ltd."
By DR. B. F. DODGE and DR. CHARLES A. WALKER, Yale University.

Abstracts of Preceding Papers

Report by Chairman of A.E.S. Research Committee, *by Dr. Earl J. Serfass.*

Active projects now being carried out by the Research Committee will be discussed briefly. The financial status of the committee as well as the publications to appear in "Plating" will be indicated in outline form. The salient features of certain of the projects as well as their value to platers will be discussed.

Stress in Chromium Electrodeposits, *by A. C. Tulumello, Dr. E. J. Seyb and Dr. J. E. Stareck.*

Stress in different types of electrodeposited chromium has been investigated by the "Spiral Contractometer" method of Brenner and Senderoff and the "Flat Strip" method described by Graham and Soderberg, Clifton and Phillips. Different values obtained by the two methods are explained. Stress in chromium is shown to be correlated with its crack pattern. Certain deposits near the upper limit of the range were found to possess a negative or compressive stress. Curve of stress versus thickness, and of stress versus baking temperature as a function of thickness are given.

Taper Sectioning of Basis Metal Surfaces and Electrodeposits (A.E.S. Research Project No. 14), *by Dr. A. E. R. Westman and Dr. F. A. Mohrnheim.*

This paper will describe an improved taper sectioning technique, adapted since the last A.E.S. meeting, which enables such sectioning to be put on a routine basis. In addition, the flatness of taper sections has been investigated by light cut and interferometer methods. The paper will be largely a discussion of techniques.

A Practical Application of Electroless Nickel Plating, *by John D. MacLean and Seymour Karten.*
A description of the complete physical layout of the production department developed for this process is given. This includes types of equipment used for cleaning, rinsing, plating and drying. The solutions, control and observations on adhesion, color brightness, rate of deposition, covering power, relative cost and ease of application are fully discussed.

Corrosion Protection of Modern Aircraft, *by W. F. Castell.*
The proper corrosion protection of exterior and interior surfaces on aircaft is of utmost importance. For the protection of aluminum alloys, the anodizing process is being replaced by chemical film processes. Process and equipment for large aircraft parts will be described. Processes for the protection of magnesium will be evaluated briefly.

Disposal of Plating Wastes at Oneida Ltd., *by Dr. B. F. Dodge and Dr. Charles A. Walker.*
The paper covers a modern plant layout for plating waste removal, and describes chemical treatments used.

Robert G. Parker

FOURTH SESSION — Wed. Morning, July 14, 9:00 A.M. — Robert G. Parker, Bridgeport Branch Presiding

1—"Effects and Removal of Lead as an Impurity in Nickel Plating Solutions" (A.E.S. Research Project No. 5).
By DR. D. T. EWING, C. J. OWEN, J. K. WERNER, W. O. DOW, and R. J. ROWE, Michigan State College.

2—"Effect of Anode Composition in Acid Copper Plating."
By R. P. NEVERS, R. L. HUNGERFORD, and E. W. PALMER, The American Brass Co., Waterbury, Conn.

3—"Technology of Liquid Buffing Compositions."
By R. V. TWYNING, Twyning Chemical Specialties Co.

Abstracts of Preceding Papers

Effects and Removal of Lead as an Impurity in Nickel Plating Solutions (A.E.S. Research Project No. 5), *by Dr. D. T. Ewing, C. J. Owen, J. K. Werner, W. O. Dow and R. J. Rowe.*
The effects of small amounts of lead present in four types of nickel plating solutions on the appearance, adhesion, ductility, salt spray (fog) corrosion resistance, hardness and throwing power of nickel solutions were studied. Watts type nickel of pH 2.2 - 5.2, nickel and cobalt, and organic nickel solutions were used. In general, a tendency for all deposits to brighten with increasing lead concentration tends to increase slightly the corrosion resistance of the heavier deposits in salt spray. Removal of lead is effective using low current density electrolysis. A high pH precipitation is also effective but at pH of 5.8 the loss of nickel metal can become appreciable.

Effect of Anode Composition in Acid Copper Plating, *by R. P. Nevers, R. L. Hungerford and E. W. Palmer.*
Contrary to the prevailing belief that copper of the highest possible purity makes the best anode for acid copper plating, it is shown that far superior anode characteristics can be obtained with coppers containing small amounts of certain definite addition agents. These improved anode coppers are characterized by the fact that no anode sludge of metallic copper particles is formed during electrolysis.

Technology of Liquid Buffing Compositions, *by R. V. Twyning.*
The following characteristics are described from a practical and chemical point of view: clean-ability, emulsion stability, viscosity, cutting power and wheel facing to reduce buff consumption. Consideration is given to primary and secondary emulsifiers, protective colloids, importance of certain surface active agents, effect of abrasive impurities in the emulsion, processing technique and optimum colloidal particle size.

FIFTH SESSION — Thursday Morning, July 15, 9:00 A.M. David J. Griffin, Southeastern Branch Presiding

David J. Griffin

1—"A Large Scale Electroless Nickel Custom Plating Shop."
By DR. G. GUTZEIT and RICHARD W. LANDON, Kanigen Div., General American Transportation Corp., Chicago, Ill.

2—"A Correlation of Metallurgical Hardness and Buffability."
By R. SCOTT MODJESKA, Scientific Control Laboratories, and HAROLD W. FAINT, Frederic B. Stevens, Inc., Chicago, Ill.

3—"The Equipment to be Used for Determining the Effects of Oxide Films" (A.E.S. Research Project No. 12).
By DR. H. B. LINFORD and DAVID O. FEDER, Columbia University.

4—"Brass Plating."
By R. A. EHRHARDT, K. G. COMPTON, and G. DIETTRICH, Bell Telephone Laboratories, Murray Hill, N. J.

5—"Throwing Power of Tin and Tin-Alloy Plating Solutions."
By DR. F. A. LOWENHEIM, Metal & Thermit Corp., Rahway, N. J.

Abstracts of Preceding Papers

A Large Scale Electroless Nickel Custom Plating Shop, *by Dr. G. Gutzeit and Richard W. Landon.*
The scope of this paper is to describe electroless nickel as a corrosion protection medium.

A Correlation of Metallurgical Hardness and Buffability, *by R. Scott Modjeska and Harold W. Faint.*
Studies on samples of both copper and nickel deposits were conducted. The deposits were rated by different groups of polishers as to their relative buffing ease. Micro-hardness measurements were made to determine if a definite relationship existed between the hardness of a deposit and its buffability. Microsocopic examination of deposits were included for comparson of grain structure as a variable in the buffability rating. Hardness measurements were made on all samples both before and after buffing.

The Equipment to be Used for Determining the Effects of Oxide Films (A.E.S. Research Project No. 12), *by Dr. H. B. Linford and David O. Feder.*
This report will give details of construction of equipment necessary to study the results of electroplating on oxide soiled basis meals. Essentially, the equipment consists of a three-compartment dry box so designed that all experimental work may be conducted in a helium atmosphere, substantially free of moisture and oxygen. Auxiliary equipment is described.

Brass Plating, *by R. A. Ehrhardt, K. G. Compton and G. Diettrich.*
The purpose of this study was to develop a brass plating solution for producing deposits of 65-75 per cent copper with a minimum variation of composition with current density. The prime purpose for brass plating was for rubber adhesion. The effects of pH, temperature, free cyanide, metal content and metal ratio are discussed.

Throwing Power of Tin and Tin-Alloy Plating Solutions, *by Dr. F. A. Lowenheim.*
A short review of the theoretical basis of throwing power will be given. The throwing power of the stannate tin plating solutions is known to be excellent, but there are few actual published figures. Some experimental data are given to show how throwing power, as measured in the laboratory, is affected by variations in plating conditions. The various tin alloy plating baths: tin-zinc; tin-nickel; tin-copper have not been studied in such detail with regard to throwing power, but such facts as are known about them are reviewed.

National Federation of Metal Finishers

Philip Ranno,
Chairman,
National Federation
of Metal Finishers

SECOND MANAGEMENT SEMINAR

Tuesday, July 13
Sky Top Room

1—"Managing a Job Shop Under Today's Conditions."
By LOUIS J. DONROE, Royal Plating & Polishing Co., Newark, N. J.

2—"Specific Labor Relations Issues of the Plating Industry."
By LUDWIG TELLER, Attorney and Member, N. Y. State Legislature.

3—"Building a Job Evaluation Program for the Metal Finishing Shop."
By KENNETH EATON, Associated Business Consultants, Chicago, Ill.

4—"A Look into the Future of the Job Shop Plating Industry."
By SILVIO C. TAORMINA, Director, Platers' Technical Service, New York and Chicago.

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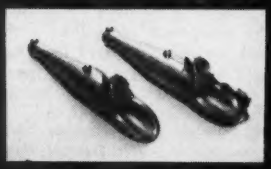

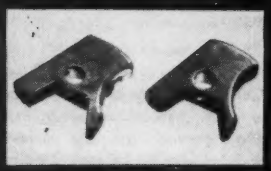

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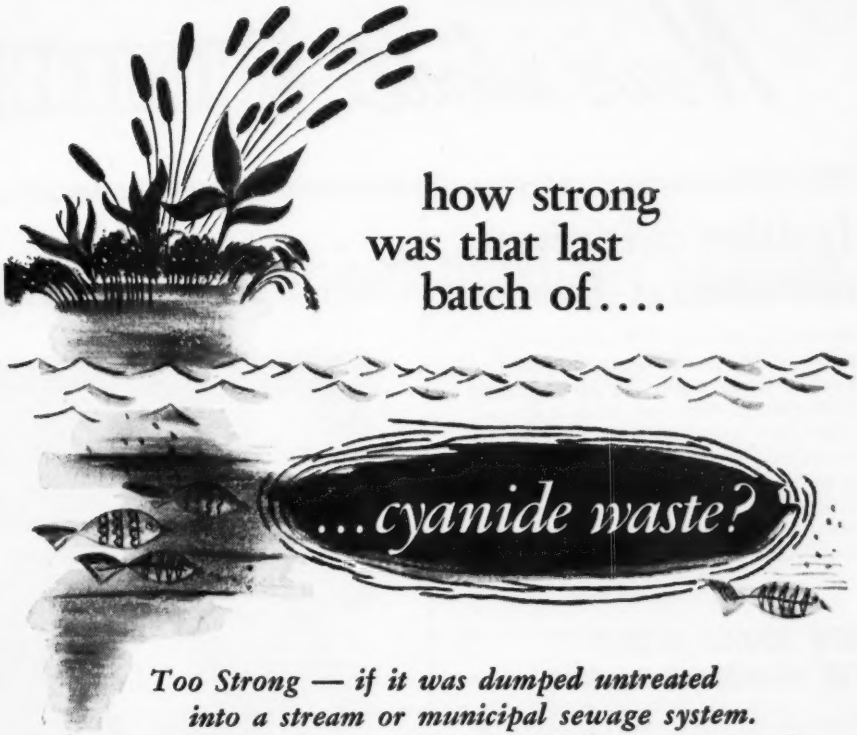

Too Strong — if it was dumped untreated into a stream or municipal sewage system. Toxic cyanide wastes can be completely oxidized and destroyed at controlled pH values by the widely used alkaline chlorination process.

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At one installation, a Unichrome Tantalum Heating and Cooling Coil had already given 4 years of service in a chromium plating tank when inspected — and was found still as good as the day it was first installed. While initially costing more than lead, an acidproof Unichrome Tantalum Coil or Heat Exchanger proves the most economical in all acid plating solutions.

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Striking improvement in operating efficiency and money-savings have become possible because of *round* tin-lead anodes developed by United Chromium.

These cylindrical anodes offer: (1) Longer service life through less corrosion; (2) Greater anode activity which means better current distribution and fewer plating rejects; (3) Greater rigidity which stops warping problems. Write for data.

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Get superior service from your new lead anodes by taking one simple precaution. When anodes are first placed in the chromium bath, be sure current is flowing. This will put a protective lead oxide film on the surface, instead of lead chromate which accelerates anode corrosion and interferes with current distribution.

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Plant switching to Unichrome SRHS Chromium Solution increases output 66% — also slashes rejects, saves power

The experience of a well known plant exemplifies one of the easiest, most economical and successful ways to "expand" a chromium plating department, or reduce its operating costs.

With the ordinary chromium bath, tank load was limited to only *six* bumpers because of current supply and coverage problems. Even at this rate, rejects due to coverage failures were running high.

Changing the bath to Unichrome SRHS Solution worked wonders. Results with this up-to-date bath were actually better — and cheaper, of course — than *physically* expanding this plant's capacity. *Ten* bumpers could be plated per cycle — a 66% increase in output. Coverage improved so strikingly that rejects dropped drastically.

ADVANTAGES CONFIRMED

This is no isolated case of improvement in operations. Many reports verify that Unichrome SRHS Chromium Solutions provide new economy in plating, better coverage and increased productive capacity.

For example: SRHS increased bumper plating 33% at another plant. . . . It reduced bath upkeep costs 40% for still another user. . . . It hard plated work formerly requiring 3½ to 4 hours in only 2½, producing fewer rejects and substantial savings in grinding time as well.

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Because important constituents of Unichrome SRHS Baths are automatically controlled, operation is easy and dependable. The SRHS wide bright plate range avoids "burns" and "misses" on the work. These and other advantages are more fully discussed in Bulletin SRHS-2. Send for it.

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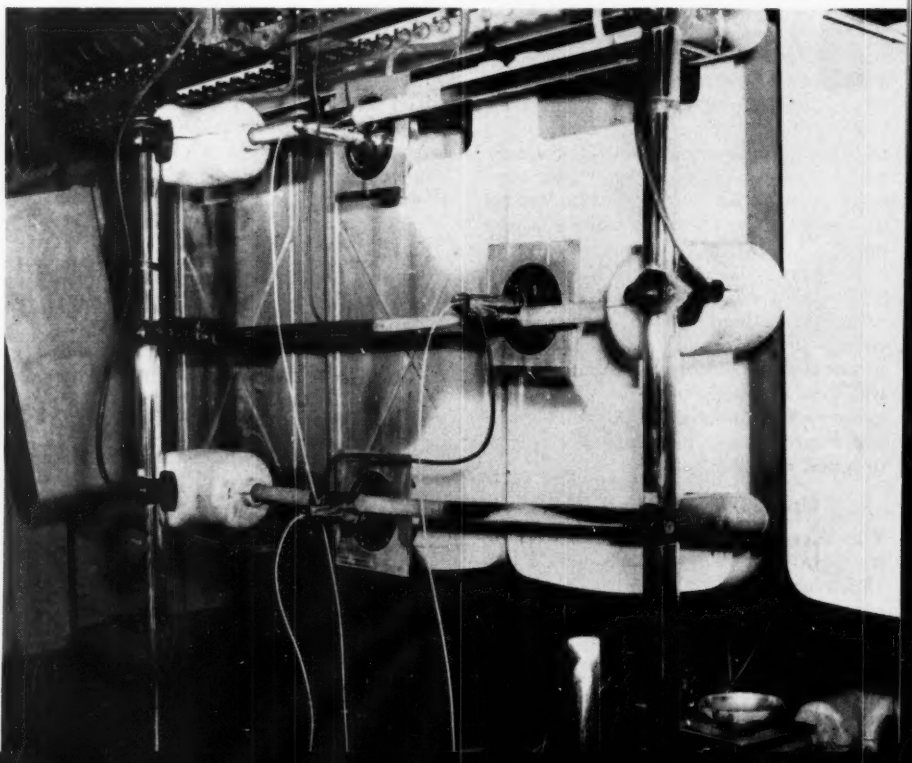
Flocoating and Electrostatic Airless Atomization in Modern Industry

By C. O. HUTCHINSON
Nubian Industrial Div., The Glidden Company

IN the finish application field there is no job requiring greater skill and stamina than that of the sprayer, whose efforts are responsible for a substantial portion of the paint finished products of American Industry.

Many years ago a couple of engineers had an idea of using an electric field as a means of applying atomized paint in the appliance industry. This idea was finally developed into what is commercially known as the Ransburg No. 1 Pro-



C. O. Hutchinson

cess, which is currently in use in many parts of the finish application industry, more particularly refrigeration, using both the overhead conveyor type setup as well as the floor pedestal type conveyor. Other concerns have marketed equipment for electrostatic application of finishing materials by slightly different methods to produce somewhat the same end result.

A much more modern method of finish application is the Ransburg No. 2 Process. This process atomizes low viscosity finishing materials without the use of air, steam or other gas to break up the paint particles. The low viscosity finishing material is pumped through a plastic hose to the inside surface of a rotating cone. Centrifugal action forces the paint to the maximum diameter of this inner surface of the cone. The high potential electrical field of 90 to 110,000 volts causes the particles of paint to take on a charge and to repel each other and be repelled by the charged rotating cone.

These charged, finely divided particles of paint travel away from the rotating cone in a donut shaped pattern, towards any grounded object in the vicinity. Several types of combinations of rotating cones have been tested and used industrially, such as the large-size bell, backed up by a metal shield (Fig. 1) which tends to control the shape of the electrical field and, therefore, the shape of the donut of atomized paint particles striking the part to be painted.

One of the most popular setups for large-scale production is that used in the laundry appliance industry in which automatic washer cabinets are hung back upward so that a set of bells can cover each side of the cabinet, and the front (hanging down) thus presenting a very nearly continuous steel surface for painting by the Ransburg bells. Many of these installations include coating as described above followed by approximately one minute flash air dry time, followed by a second coat of the same material. In this way 0.6 or perhaps 0.7 mil of enamel is applied in each pass.

Since the Ransburg No. 2 Process cannot be triggered for produc-

tion convenience, a grouping conveyor has been designed which reduces the space between succeeding hangers so that the hangers can again be picked up by the standard overhead monorail conveyor. This

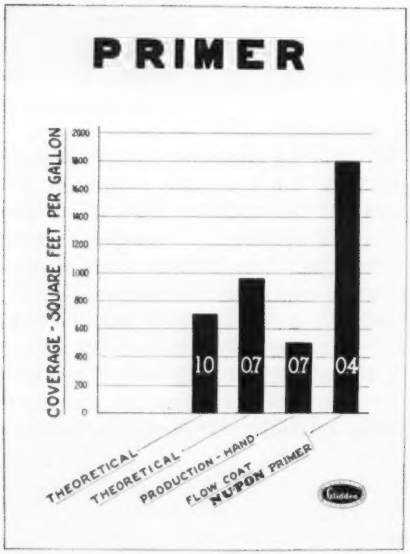


Fig. 2—Chart showing theoretical and actual primer coating coverage and coating thicknesses. *(Illustration courtesy Nubian Industrial Div., The Glidden Company, Chicago, Ill.)*

is a very ingenious and very necessary part of the Ransburg No. 2 Process.

Flocoat Priming

In the article, "Flocoating in the Home Appliance Field," to be found in "Finish" magazine, April, 1951, issue, a description of the fundamentals of flocoating in the appliance industry may be found.* A typical primer used in the appliance industry has a theoretical coverage of approximately 680 sq. ft./gal. at 1 mil film thickness (Fig. 2). When conventional hand spray primers are used the normal average film thickness of the primer is 0.7 of a mil. Therefore, the primer is capable of covering 970 sq. ft./gal. at 0.7 mil average film thickness. However, figures of approximately 450 sq. ft./gal. are more nearly representative of production. In flocoat priming in the appliance industry, however, users of finishing materials have capitalized on the ability of some of the modern finishing materials (epoxy resin primers) to give adequate metal protection at vastly lower film thicknesses. Many of these products give very excellent protection at 0.5 mil film thickness. Modern flocoat machines are constructed in such a way that practically all of the material consumed ends up on the work being painted, since adequate sized drain chambers are provided. Then, coverage figures of something like 1800 sq. ft./gal. are possible in production.

There are several principles of flocoat application that are being used at the present time. There are strong differences of opinion as to which method produces the most economical operation. The real differences of opinion lie in the solvent consumption in these various methods. It is, of course, very difficult to prove which one of the principles of flocoat produces the lowest economics, since very few manufac-

*See also, "Flow Coating Range and Heater Parts," by Ezra A. Blount, PRODUCTS FINISHING, March, 1954, p. 24.

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turers using production flocoating machines are willing to modify their equipment so that prolonged production runs can be made using the various principles of flocoating. They are as follows:

1. Conventional Flocoating. In this process flocoating is accomplished by a large number of stationary nozzles with sufficient variety in the direction of flow of the paint from the nozzles, and sufficient nozzles so that a coating can be applied to all of the required areas. Minimum vestibule and practically no drain chamber are normally incorporated in this type machine. Up until quite recently practically all production flocoating was done by this method.
2. Low Pressure Flocoating. In the low pressure flocoat machine, normally a piece of tubing or pipe is used as a nozzle, with very little, if any, restriction on the end of the piece of tubing. Paint flow through this tubing is directed in such a way that the stream of paint strikes the surface of object to be coated, and a minimum amount of splash is incurred. These machines are built with and without drain chambers and are doing excellent work on an economical basis in many industrial applications.
3. Moving Nozzle Flocoating. The revolving or moving nozzle type flocoating, for which a patent application has been made, has found widespread application in the laundry appliance industry because of the vastly decreased number of nozzles required to

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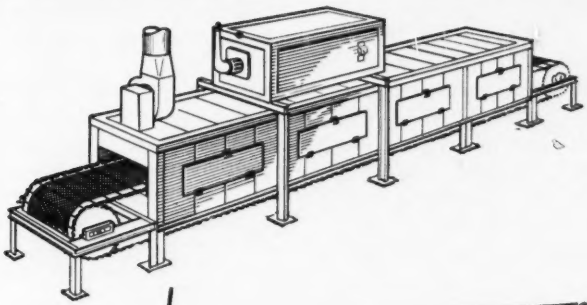
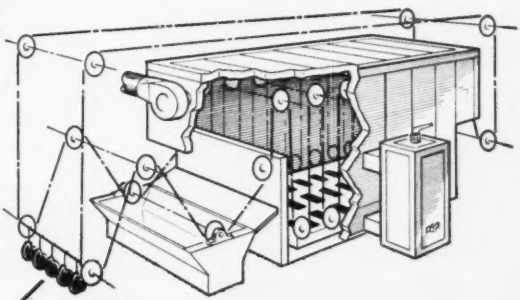
INDUSTRIAL OVENS





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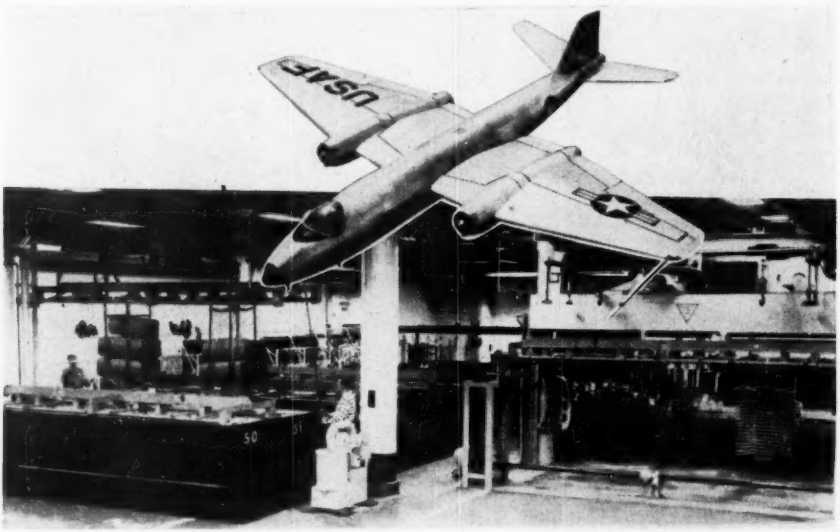
coat a given object and, therefore, the greatly reduced pump capacity, circulating pump capacity, and so forth. These machines have been installed for production application of an epoxy type primer on laundry appliances and have proved their ability to coat many relatively inaccessible areas. These machines are installed with a good size drain chamber and with many convenient piping arrangements to give maximum flexibility in flocoating machine operation.

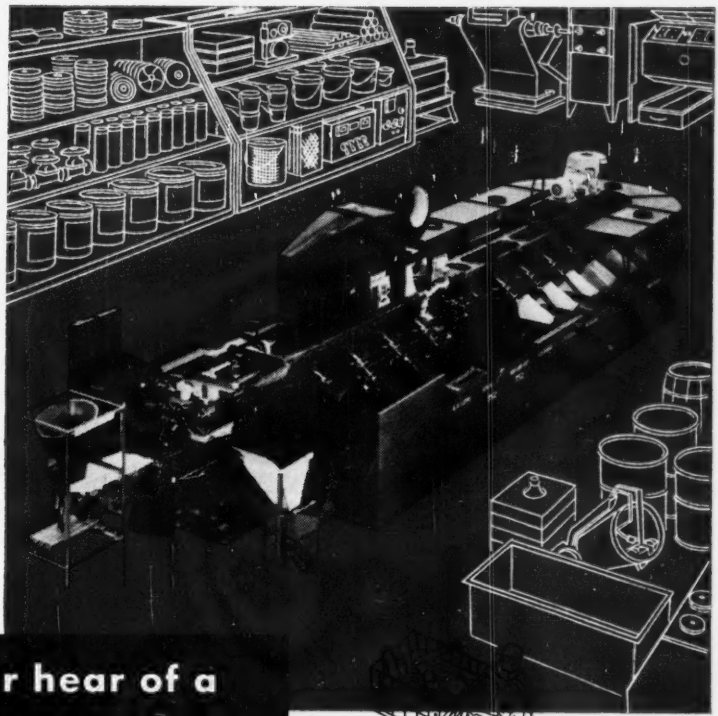
In both flocoat primer application and electrostatic airless atomization two basic improvements are made for the paint user; namely, vastly decreased direct labor in the application of the finish, and great improvement in efficiency in the use of the finishing material.

Adapted for publication in PRODUCTS FINISHING from a paper presented at the Symposium on Industrial Finishes held at Case Institute of Technology, March 10-12, and at the Annual Meeting of the Milwaukee Branch, A.E.S., April 24, 1954.



View of a modern "Alodine" No. 1200 installation at the Glenn L. Martin Company, Baltimore, Maryland. In these dip tanks, aluminum components of the USAF B-57 (top) are protectively treated with American Chemical Paint Company's "Alodine" No. 1200. Alodizing greatly enhances aluminum's natural corrosion resistance, especially in salt air, and provides a receptive and durable bond for paint. This process meets the requirements of Military Specification MIL-C-5541.

(Photo courtesy American Chemical Paint Co., Ambler, Pa.)



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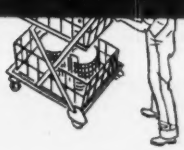

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Fig. 1—Seen at the exhibit of Nubian Industrial Div., The Glidden Co., are (left to right): Tom Armel, Jack Waldron, John McGuire, all with Glidden; and Carl Schlenk, Combustion Engineering Corporation.

Random Views of Exhibits at the 22nd of Cooking and Heating

Netherland Plaza Hotel, June 7-9, Cincinnati, Ohio

Fig. 2—An animated discussion of heating elements for electric ranges was in progress at the booth of the Edwin L. Wiegand Co.

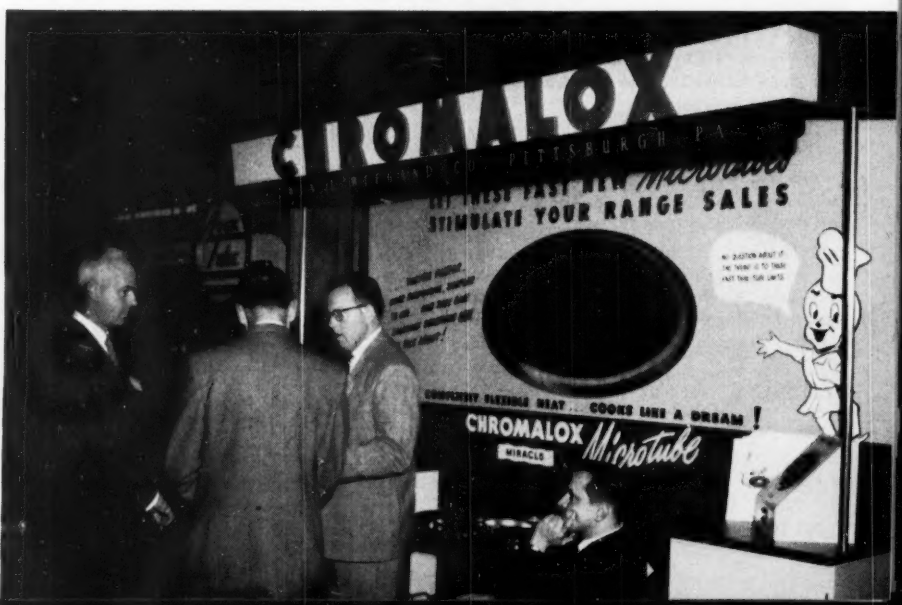

Fig. 3—The exhibit of Midland Industrial Finishes Co., Waukegan, Ill., featured applications of heat resisting finishes. Midland representatives in attendance were (left to right): M. A. Glaser, Ray Lemersal, and E. O. Robson.

Annual Convention of the Institute Appliance Manufacturers

Fig. 4—The exhibit of the Fox Co., Cincinnati, featured name plates, escutcheon plates, and metal trim finished in a wide variety of kinds and colors of finishes. In attendance at the exhibit are Frank M. Fox (left), and Milford Fox.
(*PRODUCTS FINISHING Staff Photos*)

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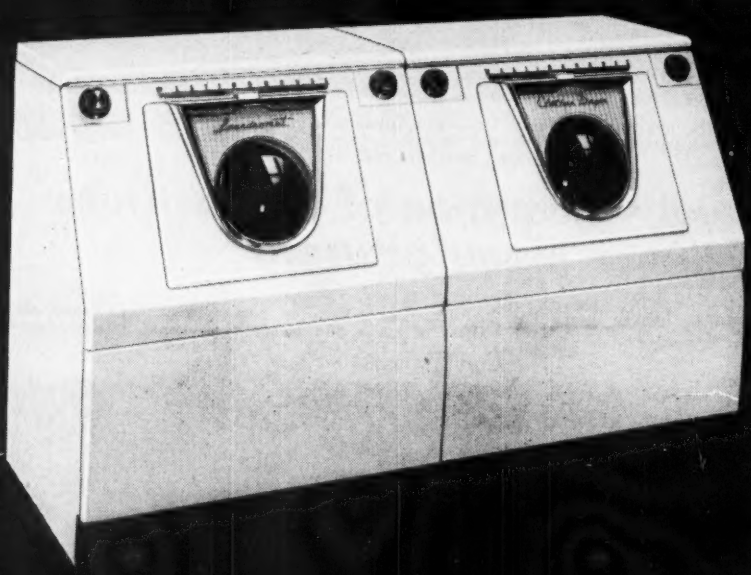

Westinghouse Laundromat Automatic Washer and Electric Clothes Dryer, painted with Pittsburgh Appliance Finishes.

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Spotlighting FINISHING Progress

National Technical Task Committee on Industrial Wastes

By Dr. C. Fred Gurnham, Head, Dept. of Chemical Engineering, Michigan State College

A Monthly Digest of Current Technical Progress Indicating Significant Trends and Developments in the Finishing Industry

July, 1954

PRODUCTS FINISHING recently reported the annual meeting of the National Technical Task Committee on Industrial Wastes, held in Cincinnati. This Committee has been in existence nearly four years and, while it has never sought publicity, the Committee's work should perhaps be better known through the industries represented. Stream pollution and the conservation of natural water resources, particularly as affected by industrial waste discharges, are matters of interest to all electroplaters and other process industries.

Most finishers are aware that the Federal Congress in 1948 passed the first national legislation with respect to water pollution. This act is known as Public Law No. 845, or more popularly as the Water Pollution Control Act of 1948. The Act recognizes the pollution of streams by industrial wastes as well as by municipal sewage, and established legal measures for the abatement of such pollution. While the Act did not authorize direct financial aid to industry for waste treatment, as

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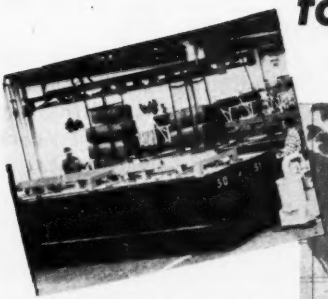
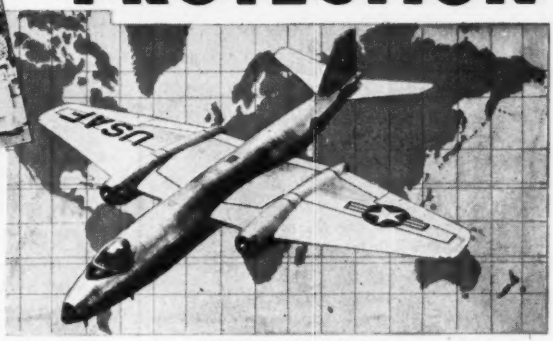


View of a modern "Alodine" No. 1200 installation at the Glenn L. Martin Company plant, Baltimore, Md. In these dip tanks, aluminum components of the USAF B-57 (top) are protectively treated with American Chemical Paint Company's "Alodine" No. 1200



Alodizing creates a durable bond for paint, and greatly enhances aluminum's natural corrosion resistance, particularly in salt air. Alodizing meets the requirements of Military Specification MIL-C-5541, and was adopted by Martin after a long test period.

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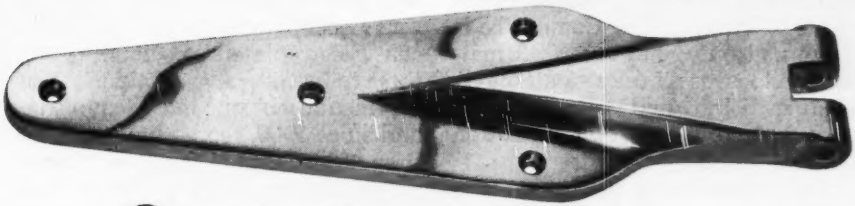
it did to municipalities, federal assistance has been provided in the form of technical help on special problems, wherever the benefits of research can be applied. The Act established a Water Pollution Control Advisory Board, which includes representatives from industry, state and municipal government, scientific research, wild life conservation, and engineering, in addition to the federal government.

One of the first actions of the Water Pollution Control Advisory Board was to recommend formation of the National Technical Task Committee on Industrial Wastes as an advisory group to the U. S. Public Health Service. Much of the federal research and activity in the field of stream pollution is the responsibility of the Public Health Service, although there is work being done by other branches of the government, including the Bureau of Mines, the Army Engineers, the Fish and Wildlife Service and the Department of Agriculture. The job of the NTTCIW, as suggested in an advance notice of its first meeting, was "to draw up a program to solve water pollution problems caused by industrial wastes for which no methods of treatment have been developed, and to improve existing waste treatment methods where needed."

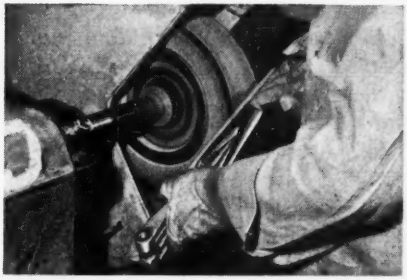
The membership of the NTTCIW is made up of one representative from each of the major industries which are factors in stream pollution. Because many disposal problems and research activities are common to several industries, this Committee provides an opportunity for the exchange of information on new developments. The Committee is in

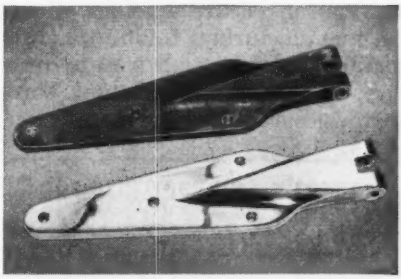
How would you SOLVE IT?



1 PRODUCTION PROBLEM:

To cut unit costs of finishing and polishing forged brass refrigerator door hinge leaves. Kason Hardware Co., had been using set-up wheels in a costly, two-step operation (prior to final buffing) that left unsatisfactory finishes, with much dragging out of counter-sunk holes.





2 SOLUTION: A 3M Representative showed this Brooklyn, N.Y. manufacturer how the 3M Method would finish and polish forgings in *one* operation, with Wetordry Tri-M-ite Cloth belts. The Grit 180 belt does the work of both a #80 and a #150 set-up wheel.

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a position to make recommendations to the Public Health Service and to other agencies regarding needed research on industrial waste problems of broad interest. The Committee is concerned only with technical matters, and leaves recommendations regarding policy and administrative procedure to the Water Pollution Control Advisory Board.

The organization meeting of the NTTCIW was held May 9 and 10, 1950, in Washington, D. C. Twenty-two industries were represented at this meeting, as follows: pulp, paper and paperboard; canning; coke; iron and steel; petroleum, dairy; coal; gas manufacture; chemical manufacturing; fermentation; distilling; electroplating; automotive; beet sugar; meat; tanning; corn; textiles; manufacturing; non-ferrous metals; rubber; and electric. The electroplating representative at this first meeting was Dr. William Blum, who presented a brief report on current research activities of the American Electroplaters' Society. All of these industries have continued their representation on the Committee, and since 1950, representatives have been added from fisheries; frozen foods; lumber; mining (other than iron and coal); paint, varnish, and lacquer; poultry and eggs; power; and railroads. The present member and alternate from the electroplating industry are C. Fred Gurnham and D. Gardner Foulke.

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At the first meeting in 1950 the Committee set itself three immediate tasks: (a) to assemble a source list of existing processes and practices employed in using, treating, and controlling industrial wastes; (b) to assemble a tabulation of research projects concerned with utilization, treatment and disposal of wastes,—those underway and contemplated; (c) to provide a list which will define problems that confront a given industrial group and for which there is no satisfactory solution, particularly those which are common to more than one industry.

The committee is divided into four Task Groups which act as working committees. These are (I) Food Industries, (II) Mineral Products, (III) Chemical Processing, and (IV) General Industries. The electroplating industry is in Task Group III together with chemical manufacturing; paint, varnish, and lacquer; pulp, paper, and paperboard; rubber; tanning; and textiles.

At the second meeting, held January 23 and 24, 1951, a more de-

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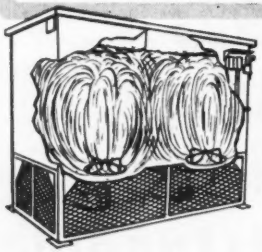

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tailed statement of the functions of the Committee was prepared.

1. To inventory, appraise, coordinate and promote research and development work on utilization, treatment and control of industrial wastes.
2. To facilitate securing uniformity in methods of measuring and evaluating trade wastes in water quality control.
3. To stimulate more effective working relationships on technical phases of the work of improving the quality of waters between industry and federal, state and local governmental agencies.
4. To help point up the activities on industrial wastes of the Environmental Health Center.
5. To aid in establishing where major needs exist for any grants-in-aid for obtaining basic information relative to taking care of the industrial waste problems in water pollution control.
6. To stimulate further adoption of practical methods now known and to be developed for minimizing and treating wastes in effecting stream improvement.
7. To secure wide dissemination of information on technical progress and what is being accomplished by various branches of industry, maintaining suitable contacts with technical societies, professional organizations, trade associations and other such groups issuing publications that reach

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those concerned with pollution problems.

8. To aid in promoting such training activities as necessary to facilitate efficient operation of waste recovery and treatment systems in industry.
9. To perform such other technical tasks pertaining to industrial effluents as appropriate to stimulate improvement in the quality of the water resources of the nation.

In addition to the two meetings mentioned above, further meetings were held November 1951, at Chicago, and June 1952, January 1953, and January 1954 at Cincinnati. A majority of the meetings are held in Cincinnati because the principal research activities of the U. S. Public Health Service are located at the Environmental Health Center in that city. Discussions, both formal and informal, with technical personnel of the Center have been a valuable part of these gatherings.

The report of Task Group III to the January 1954 meeting includes the following paragraphs with respect to the electroplating industry.

"Developments and trends in the field of electroplating and metal finishing with respect to industrial wastes remain much the same as reported last year, with principal emphasis on: (1) reduction of the quantity of wastes, and (2) conservation of water. In both areas the study of the use of ion exchange resins and the actual application of such materials to specific problems is quite active.

"Two important problems, (1) the upper concentration limits tolerable with respect to effluents emptying into streams and (2) the effect of plating wastes in the operation of municipal sewage treating plants are being attacked. With respect to limits the Metal Finishing Action Committee of the Ohio River Valley Water Sanitation Commission has set up a sub-committee on toxicity limits which has already abstracted over 1000 articles. This work is now being evaluated by the Kettering Laboratory and the Aquatic Life Advisory Committee. Both Ohio State University and Michigan State College have research projects under way on the effect of plating wastes on the operation of sewage treatment plants.

"Other research projects active during the year include: toxicity of complex cyanides to fish (En-

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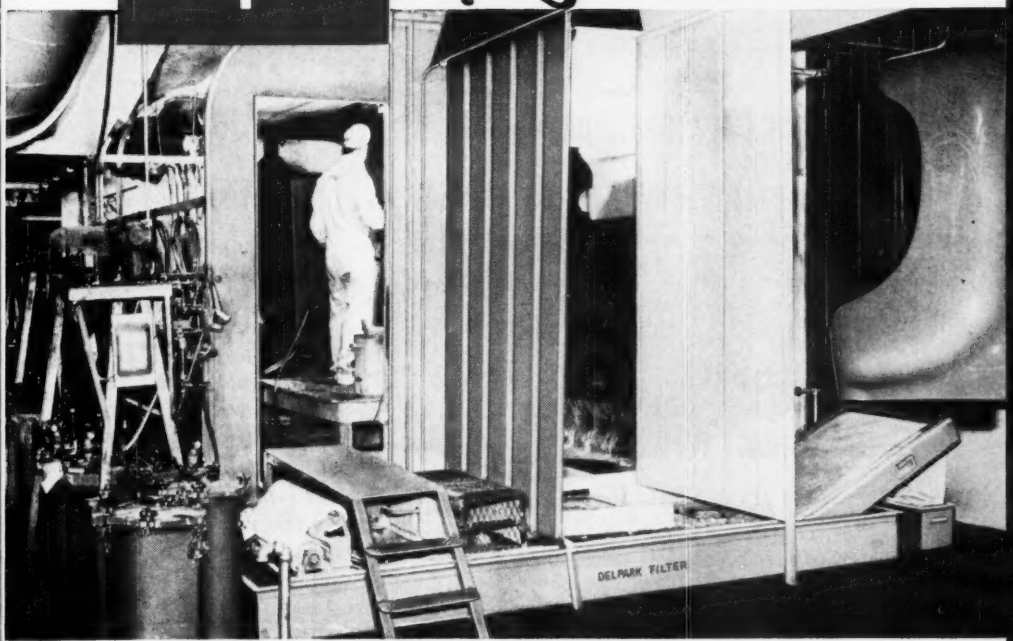

Automotive Synthetic Enamels, as a rule, are very difficult to handle. Equally difficult is the proper maintenance of spray booths where this type of enamel is used.

To reduce maintenance and cleaning time, the Studebaker Corporation has installed the DELPARK 36138 AFB Unit illustrated. This unit filters over spray from the wash water used in a spray booth where small sheet metal parts are painted.

With this installation, the Studebaker Corporation is effecting important savings in time and money.

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vironmental Health Center), aluminum plant effluents (State College of Washington), ion exchange methods (Yale), concentration of ions and regeneration of magnesium pickling solutions (University of Detroit). During the year the American Electroplaters' Society research work on waste disposal methods was interrupted by lack of manpower, but the committee is continuing to function and work will again be resumed as soon as possible on cyanide oxidation methods. During the year the Metal Finishing Action Committee of ORSANCO will publish "Methods for Treating Metal Finishing Wastes," bringing the total to four such manuals released by this group.

"During the past year, a number of metal finishing supply companies have become engaged in the engineering, design and installation of waste treatment systems. This serves to underscore the increasing importance of waste treatment to the metal finishing industry, and at the same time brings a new group into the waste disposal field."

People familiar with the NTTCIW feel that the Committee is accomplishing a great deal in presenting the viewpoint of industrialists to

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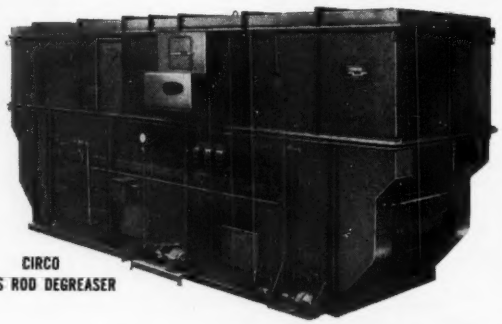

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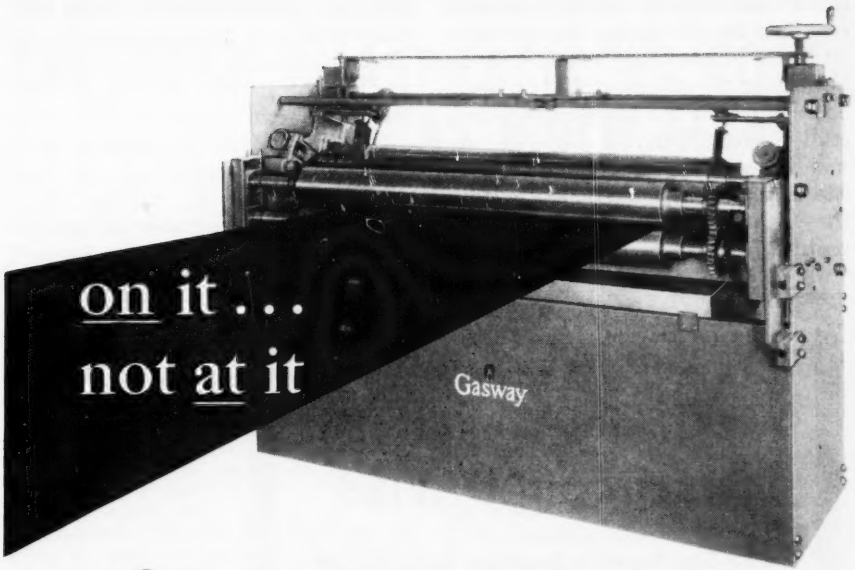

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the Public Health Service. Recommendations are made, for example, on such matters as stream control policies and legislation, and on needed research in the disposal of industrial wastes. Many of these recommendations channel back to the State regulatory agencies, where they help to provide a realistic viewpoint with respect to stream pollution by industrial wastes. The ultimate benefit of these cooperative endeavors comes both to the industries and to the public. Individual electroplaters can assist in the work of the Committee by keeping their representatives informed on new developments in plating waste treatment and disposal, current research and literature references.

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Fifty Years Of Paint Testing. Published by the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. 52 pages, heavy paper cover. Price, $1.25.

An historical summary of fifty years of work by ASTM Committee D-1, in the field of paint testing, the papers and reports in this booklet were presented as a part of the Committee's celebration of its fiftieth anniversary.

The topics covered include: "Accelerated Tests for Protective Coatings"—R. H. Sawyer; "Methods of Chemical Analysis of Paint Materials"—C. Y. Hopkins; "Varnish"—J. C. Weaver; "Resins" — R. W. Stafford and C. F. Pickett; "Physical Properties of Materials" — M. R. Euverard; "Cellulosic Coatings and Related Materials" — F. H. Lang; and "The Protection of Iron and Steel" — A. J. Eickhoff.

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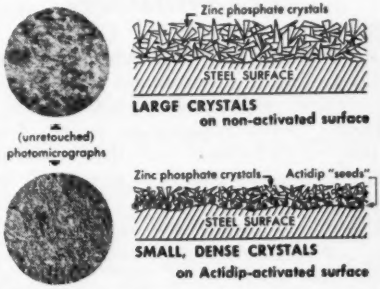

How Actidip Works

Zinc phosphate crystals begin "growing" on steel from a starting point or nucleus. On a non-activated surface, growth is uncontrolled. Result: large crystals, high consumption of phosphatizing solution, irregular surface requiring more paint to cover.

Actidip "seeds" the surface with thousands of nuclei. Result: a smaller crystal structure; a minimum of solution to coat surface (up to 40% less); equal or better corrosion resistance; less paint to cover—or smoother finish with same amount.

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Practical Applications of modern products

Conveyorized Tackle Box Finishing

THE Manufacturing Division of Stratton & Terstegge Company, Louisville, Ky., produces some fifteen different styles and a dozen sizes of tackle boxes ranging in length from 13½ to 19 inches, and distributed nationally under the trade names of "My Buddy" and "Falls City." Exteriors of the tackle boxes are electrostatically spray painted in wrinkle finish. Colors include grey, blue, red, brown and green. Interiors of the boxes are hand sprayed.

*"Electro-Spray Finishing of Tackle Boxes," by C. M. Long, PRODUCTS FINISHING, December, 1948, p. 32.

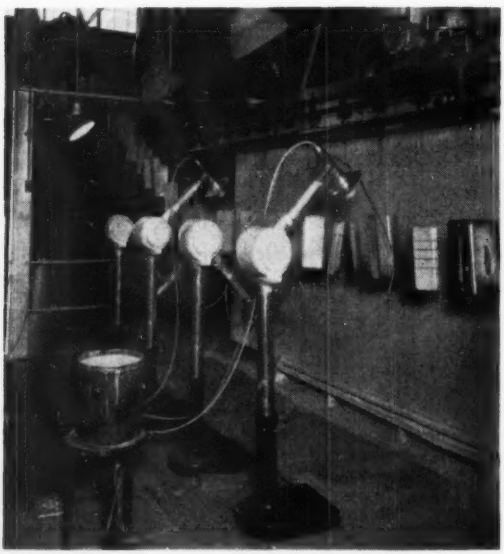
Originally, the company hand sprayed both exterior and interior of the tackle boxes. Efficiency was measurably increased in 1947 when the Ransburg No. 1 Process was installed and box exteriors were then finished by electrostatic spray.*

Then in July '53, a Ransburg No. 2 unit was installed, replacing the No. 1, and this change has enabled the company to achieve further efficiencies in finishing tackle box exteriors. Records show that paint coverage (pieces per gallon of mixed paint) has increased 25 per cent. Daily production has increased about 10 per cent, too.

Finishing Process

Compartmented trays and boxes are hung alternately on the conveyor to match unit assemblies. The conveyor is an overhead cable type conveyor, 750 ft. in length. It operates at 10 f.p.m. and the boxes and trays are hung on 12 inch centers.

Trays and boxes are loaded at the beginning of the line where bottoms and tops of the boxes are projection welded together with hinges. Trays and open boxes then move overhead on the line to the burn-off oven. Parts are prepared for painting by being



Electro-spray finishing of tackle boxes in Stratton & Terstegge plant. (Photo courtesy Ransburg Electro-Coating Corp., Indianapolis, Indiana)

subjected to 650 deg. F. for 8 minutes. Drawing oils, protective coatings and other deposits are burned off in the infra-red, gas-fired oven.

By the time the parts reach the paint area, they have cooled to room temperature. Two hand sprayers coat the box interiors in a water wash booth just before they enter the open electro-spray area for the exterior finishing operation. Four 3-inch atomizing heads —at two different levels—are used on the Ransburg unit to apply the desirable, heavy wrinkle finish to the parts in a single pass. Parts are rotated on the line as they enter the electro-spray area. Because there is no overspray to be exhausted, only an exhaust duct is used for removal of solvent fumes.

In addition to the increased paint mileage, Jack Klehammer, foreman of finishing, reports that the No. 2 Process is providing a consistent, higher quality finish; there is no air pressure to be concerned with; cleanup and maintenance time has been greatly reduced, and rejects have been practically eliminated.

From the electrostatic spray paint area, the boxes and trays are carried upward to the overhead, infra-red gas oven where they bake for 15 minutes at temperatures varying from 275 to 300 deg. F. From the oven, painted parts move back to the floor level and subsequent assembly operations where they are then placed on a belt conveyor. From here, outside hardware is assembled; name plates affixed, completed units inspected and packed in cartons for shipping.

From the developed blank of 25-gauge steel—through the various steps —to the packing of the completed product requires only two hours.

Felt Finds Increasing Uses for Polishing and Metal Finishing

KEEPING pace with metallurgical advances along a broad front, wool felt is being used more and more for finishing and polishing the newer industrial, as well as the older traditional, metals. Felt bobs and wheels in a full range of densities and hardnesses are aiding industry by making possible precision finishing, grinding, polishing and buffing operations in the metals industries. Such uses include the finishing of airplane parts, the polishing of copper engraving plates, cleaning and polishing of saw steel, propeller blades, cutlery, chromium plate, and tubing.

Felt for such purposes must be specially engineered for the intended use. Aside from the important property of elasticity, felt can be coated with abrasive grains designed to do a specific finishing or polishing job. Wheels (6 inch and over) are tailor-made to rigid specifications in up to nine densities and are operated at speeds as high as 9,000 surface feet per minute. For its part, the felt industry has developed, standardized, and is currently turning out a wide range of felt bobs (wheels under 6 inch diameter) to meet the expanding demand for precision polishing operations.

For surface polishing, the job to be done determines the kind of felt called for. To polish copper plate for etching, for example, felt sheets are mounted on large cylinders. If the job involves finishing recesses in dies for drawing sheet metal, felt bobs are used. On the other hand, wheels made of rock-hard compressed felt are employed for polishing small diameters of metals prior to chromium plating.

In grinding, polishing, and buffing operations, felts are used in a number of ways. For polishing relatively soft materials, the hornlike character of the wool fiber itself makes it possible to favor the harder felts for polishing, with no additions or supporting agents. For polishing harder materials, felt wheels go to work in conjunction with other agents. In such applications, the felt wheels act as carriers for liquids in which abrasive substances are dispersed. Actually, about 85 per cent of felt wheels for surface polishing are "set-up" wheels, that is, wheels coated with glue and rolled in selected grits to form a somewhat permanent abrasive tool, similar in purpose and appearance to the familiar emery wheel.

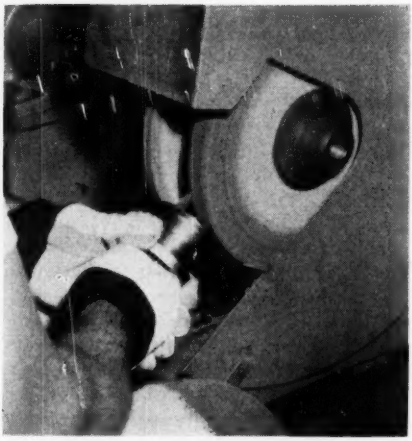


Fig. 2—Two felt wheels are being used here to buff the surface of a metal part.

Standards

Mechanical sheet felts, a principal product of the industry, have been broken down into rigid specifications thus providing precisely standardized materials for metallurgical finishing

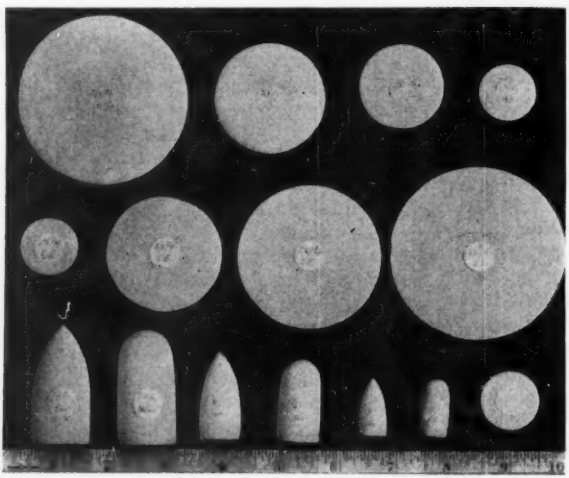


Fig. 1—Small grinding wheels and bobs turned from sheet felt have many uses in light manufacturing operations where finishing requirements are exact. Pictured here are wheels from one to three inches in diameter and 3/16 to 3/8 of an inch in thickness. The bobs shown on the lower line of the photograph are one-half to three inches in length and made blunt or pointed according to the shape of the work surface to be smoothed.

and polishing operations. Felt manufacturers, through The Felt Association, have adopted and are sternly adhering to standards for mechanical felts (accepted by and promulgated with the assistance of the Society of Automotive Engineers).

These standards cover four classes of sheet felts: "Fine Spanish," "Spanish," "Fine Mexican," and "Coarse Mexican." The first two are finer types while the latter two are coarser fiber varieties. Each type is made in five different degrees of density: extra soft, soft, medium, hard, and rock-hard.

Standardized sheet felts are applicable to a wide range of technical uses. The extra soft Mexican type, for example, is used to polish aluminum, copper, zinc, and for wiping sheet steel during its manufacture. At the other end of the density range, the extra hard Fine Spanish sheets are cut and turned into wheels and bobs for grinding and polishing metals and other materials.

Fig. 3—Finishing the outside surface of a connecting rod with a felt cone turned to fit the contour of the work.

Fig. 4—Polishing the inside surface of a connecting rod bearing cap with a small wool felt wheel. *(Photos courtesy The Felt Association, New York 6, N. Y.)*

Applications in Metal Finishing

Deep drawing dies, combustion chambers for automotive engines, and such diverse products as lipstick holders and darning needles are given their final surface finish with felt bobs or wheels.

In polishing metal cylinders, to cite an example, felt strips are inserted in metal channels and the edge grain of the strip is used rather than the surface. A Spanish sheet felt is indicated for this job because it is hard, has plenty of life, and can readily hold grinding or polishing compounds.

For precision polishing of propeller blades an extra hard Mexican sheet felt is used as a base for Carborundum abrasives.

Cutlery is polished by being placed between rotating felt rollers with fine pumice as the polishing medium. Spanish sheet felt is favored because

of the need for a hard felt which will deliver a scratch-free finish.

Chromium plated automobile parts, such as grilles, often become contaminated with body paint and require cleaning and polishing. Backcheck felt (this is a form of felt made up in roll goods rather than sheets) is ideal for such jobs because it is extra firm and lint-free, providing a scratch-free finish. It can be readily cleaned with solvents and re-used. Backchecks also are used for wiping metal strips such as brass and steel, and for cleaning metals prior to plating (as in the silver plating of cutlery) where it is imperative that defects and surface contamination be removed before plating.

The aviation industry uses thousands of rock-hard, durable felt bobs for finishing engine parts, including connecting rods, cams, oil holes and other parts having irregular contours which a plain grinding wheel could not handle evenly.

The aluminum industry uses a variety of mechanical finishes, either to alter the appearance or the properties of aluminum surfaces. Although polishing aluminum and alloys calls for the same procedure as the polishing of other metals, the actual operation is accomplished at lower wheel-to-metal pressures. Finer abrasives, with a more gentle cutting action are employed for aluminum than for steel. Roughing, an aluminum polishing operation, uses wheels faced with 50 to 100 grit.

In aluminum finishing, greasing or oiling is a refined roughing procedure. A soft felt wheel faced with 100 to 220 grit aluminum oxide or emery, plus a lubricant (tallow or beeswax) to prevent overheating, is employed. Peripheral speeds of about 6000 feet per minute are used. This is an important and necessary operation in finishing castings and other fabricated work which has been marred by previous operations. Sand castings are invariably given this greasing treatment after being roughed, and die castings are given it as the first polishing operation (in aluminum finishing, polishing includes roughing, greasing, buffing and coloring). The felt wheel has the advantage of uniform density and contains no sewed or cemented seams.

The mirror-like finish of copper is obtained by buffing, utilizing very fine and relatively soft abrasives, such as rouge (red ferric oxide), crocus (purple ferric oxide), tripoli or lime, with a wheel of felt. The buffing compound is prepared by mixing the abrasive with stearic acid and tallow and forming it into a bar or cake which is pressed against the felt wheel.

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*U. S. Patent No. 2,140,200

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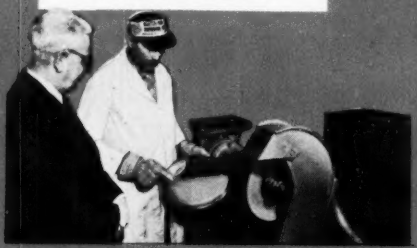

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ALSO... there's a complete line of other H-VW-M top-grade compositions—Tripoli, Carbon and Stainless Steel Buffing in bar or liquid form; as well as Emery Paste and Cake, Crocus, Polishing Tallow, Rouges, and special types including Water Dispersible and the new Red Rouge Shapes for automatic application. *For full details, ask for Bulletin Co-101.*

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Every step in the design or formulation, development and manufacture of H-VW-M mechanical finishing products is a result of *sequence-proving* through *integrated* laboratory activities. All necessary operations *before, during* and *after* mechanical finishing, for instance—buff and composition selection — buffing, cleaning and plating — are performed *in sequence* under laboratory control and all are carefully tested in each phase to assure the

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See *that* weave? The sisal is cut on *the bias* so wear is more even and life is longer for every H-VW-M

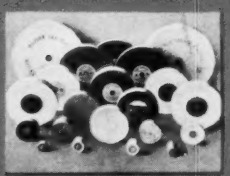
BIAS SISALWEEV!

Whole strands of sisal *can't* fly off at high speed and there's no danger of scorching at any speed or pressure. The unique design *plus* careful craftsmanship give H-VW-M Bias Sisalweev one-of-a-kind performance. Ideal for heavy cutting down of drawn, stamped or cast; ferrous and non-ferrous surfaces. Bias Sisalweev is available either treated or untreated. Recommended: an exclusive H-VW-M treatment which increases rate of cut and lengthens wear life and ability to hold composition. And for buffing steel, you can't beat a Bias Sisalweev with H-VW-M 6-B-97 composition for heavy cut or with 6-B-66 for medium cut with finer finish. Sections ⅜" thick with either 5" or 7" centers are available in a full range of sizes and spiral sewing can be applied with spacing as desired. *Write for full details.*

ALSO... **SISALIN SECTIONS**—not just for buffing or polishing, but for both. H-VW-M Sisalin Sections combine to form unique dual-purpose tools for faster and better preparation of steel surfaces before nickel and chrome plating. In all standard diameters from 3" to 24". *For full details, ask for Bulletin SS-100.*

BRUSHES

. . . for every need in metal cleaning and polishing. H-VW-M StapLbond Tampico and Wire Brushes, Circular Wire Scratch Brushes, Circular Tampico and Nylon Brushes, Satin Finish Hanger and Goblet Brushes, and a wide selection of platers' specialty brushes. *For full details, ask for Bulletin BR-105.* NEW —H-VW-M Helical Brush Units for continuous strip cleaning of metal. *Ask for Bulletin HB-105.*



POLISHING WHEELS

. . . a proper type for every application. H-VW-M Invincible, Universal, Victory, Rival and Triplex Cloth Wheels; Monarch, Empire, Union, United and Quilted Canvas Wheels; Cemented, Quilted and Loose Sheepskin Wheels; Felt Wheels and Leather-Covered Wood Wheels—each type with specific advantages. Also a full line of wheel accessories such as Alundite TP Abrasive, Turkish Emery, Klinch Grain Cement and Thinner, Belgrade Glue, Modern Wheel Trimmers. *For full details, ask for Bulletin W-103.*

POLISHING AND BUFFING LATHES

. . . a wide variety for every production plant or job shop need: Model MS for general work, MI for smooth operation with utmost convenience, MSV with continuously variable speed, DMI for continuous production with independent spindles, VST and VCST with two motors and spindles—plus VCSTV with continuously variable speed, VJ for light work, VH for heavy duty and VH-X for extra-heavy duty with semi-automatics, DB-3 Backstand with spring tension, DBA "Tensionaire" Backstand with automatic air tension control, VCL low-type and VR bench-type—plus VRV bench-type with continuously variable speed—for operation while sitting. *For full details, ask for Bulletin L-304.*

EQUIPMENT AND ACCESSORIES

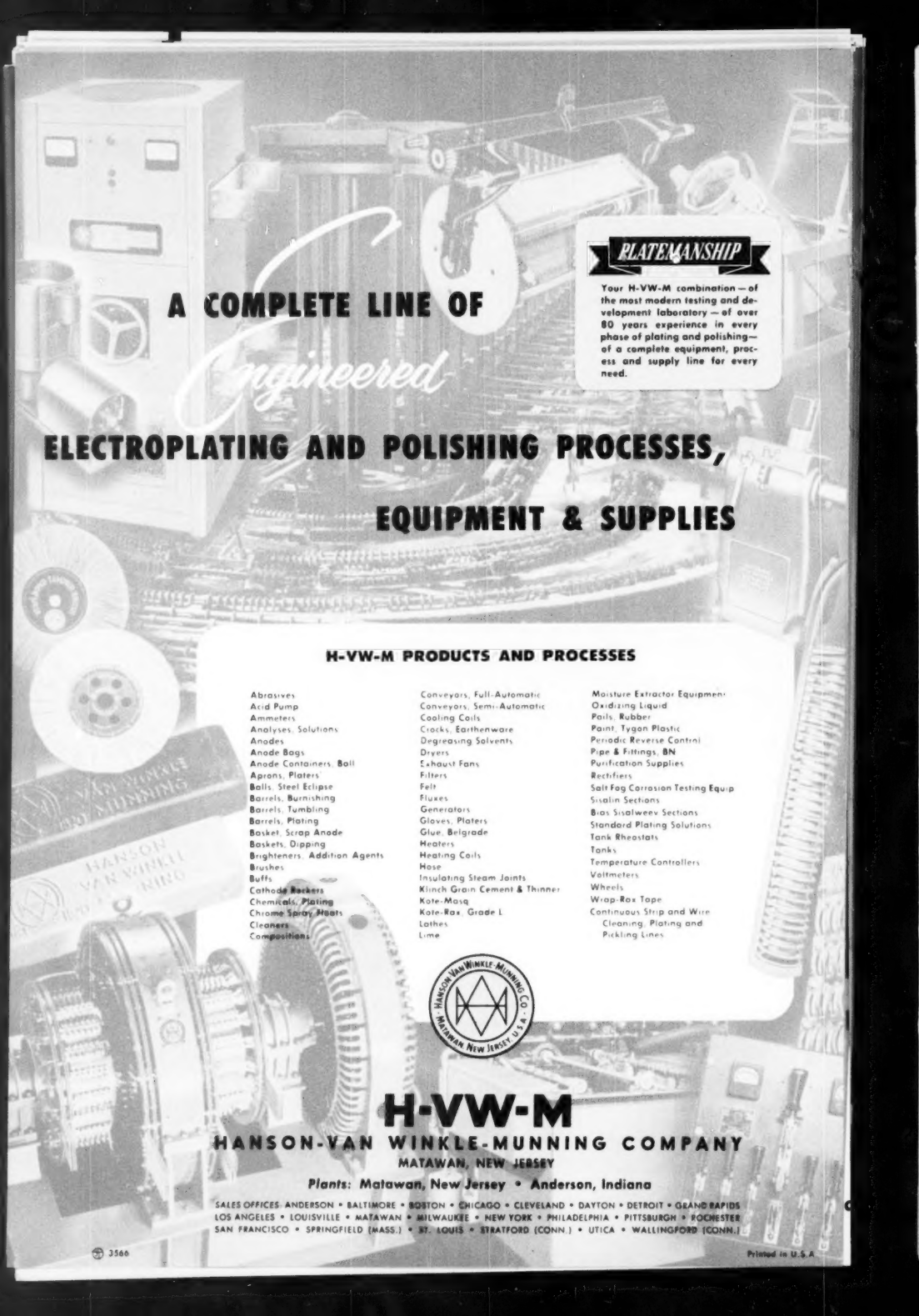
. . . *everything* else that's essential to top-quality mechanical finishing: Pumice, Eclipse Steel Balls, Burnishing Barrels, Tumbling Barrels, Felt, and a host of similar products —all designed to work *together* for the finest possible finish.

ICE-PROVED *in H-VW-M Laboratories*

near-perfection of final finishes.

This program of *proving* performance in *all* finishing operations is your guarantee of superior finishes that will clean and plate well. Whether standard products or custom-designed items such as special composition shapes, *all* H-VW-M mechanical finishing products are backed up by this *integrated* laboratory policy . . . every H-VW-M quality-assuring facility combined to bring you only the best.

ove, ask for the literature described in this bulletin.



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Your H-VW-M combination — of the most modern testing and development laboratory — of over 80 years experience in every phase of plating and polishing — of a complete equipment, process and supply line for every need.

A COMPLETE LINE OF *Engineered* ELECTROPLATING AND POLISHING PROCESSES, EQUIPMENT & SUPPLIES

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Barrels, Burnishing
Barrels, Tumbling
Barrels, Plating
Basket, Scrap Anode
Baskets, Dipping
Brighteners, Addition Agents
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Buffs
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Chemicals, Plating
Chrome Spray Hoods
Cleaners
Compositions
Conveyors, Full-Automatic
Conveyors, Semi-Automatic
Cooling Coils
Crocks, Earthenware
Degreasing Solvents
Dryers
Exhaust Fans
Filters
Felt
Fluxes
Generators
Gloves, Platers
Glue, Belgrade
Heaters
Heating Coils
Hose
Insulating Steam Joints
Klinch Grain Cement & Thinner
Kote-Masq
Kote-Rox, Grade L
Lathes
Lime
Moisture Extractor Equipment
Oxidizing Liquid
Pails, Rubber
Paint, Tygon Plastic
Periodic Reverse Control
Pipe & Fittings, BN
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Tank Rheostats
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Continuous Strip and Wire Cleaning, Plating and Pickling Lines

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MATAWAN, NEW JERSEY

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CUSTOM FORMULATED PLASTISOLS — PROTECTIVE COATINGS — TANK LININGS — PLASTIC PIPE AND TUBING

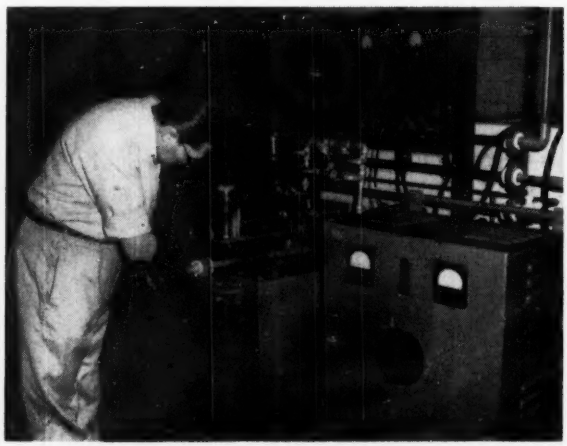
Orlon Work Clothes Help Solve Electroplating Laboratory's Problems

A MAJOR source of concern and expense among firms that do plating has always been excessive damage to employees' clothing through the splashing of acid plating solutions and caustics.

One company that has effectively licked this problem is Hanson-Van Winkle-Munning Company, one of the oldest in the country. In their modern plating laboratory at Matawan, New Jersey, they found that work clothing replacement—with acid burns appearing in one day and ordinary work clothing becoming unserviceable in one week — was a major factor. Shown in the accompanying photograph is Pat Improta, an electroplater at the plant, wearing work clothes of Du Pont Orlon made by Worklon, Inc., 253 West 28th Street, New York, N. Y.

E. E. Carlson, electroplating manager, has reported that Worklon shirts and trousers of Du Pont Orlon have been in use for more than six months and are still in excellent condition.

Besides its acid resistance and durability under extremely damaging conditions, Orlon workclothes wash easily and dry quickly.



View of plating operation in Hanson - Van Winkle - Munning Company laboratory.

ETHYL CELLULOSE. A technical booklet about the use of ethyl cellulose in specialty coatings is now available from **Hercules Powder Company,** Wilmington, Delaware.

The unique properties of ethyl cellulose are being utilized in coatings for widely different surfaces including plastics such as polystyrene, on rubber, metal, wood, and paper. It is also being used as the base of many liquid adhesives, strippable protective coatings, and gel lacquers.

The booklet contains starting formulations for many of these applications.

BLUNT CORROSION WITH DURO-KOTE. A four-page illustrated leaflet, **BULLETIN DK-1-53,** describing Duro-Kote and Duro-Kote No. 57 acid proof coatings, which offer vinyl and butadiene styrene acid-proof resin protection against acids, alkalies, and many solvent actions, is available from **Electro-Chemical Engineering & Manufacturing Co.,** 750 Broad St., Emmaus, Pennsylvania. Duro-Kote and Duro-Kote No. 57 were planned primarily as acid-proof and alkali-proof maintenance paints useful in metal finishing. The bulletin contains photographs of ventilators, tanks, and structural metal coated with Duro-Kote, also lists recommended uses for the product, and gives application directions.

ROTO FINISH

Trademark Reg. U. S. Pat. Office

develops a new approach to SURFACE FINISHING

ROTO-FINISH has now extended the original barrel finishing process to include entirely new special fixtures machines and equipment. These machines represent a radically new departure from the generally accepted conception of barrel finishing machines, made possible only by Roto-Finish extensive experimental facilities and long experience with modern, precision surface finishing processes. And these new special fixture machines prove that there are no limits to the size or shape of parts which can be successfully processed with proper equipment, materials and methods.

The new engineering developments which have taken place in the Roto-Finish laboratories open the door wide to entirely new applications and entirely new principles in mechanical surface finishing. Therefore, whatever your finishing problem, we urge you to ship us two finished and several unfinished samples of parts you may wish to have us process in our laboratories. Remember, Roto-Finish guarantees the same result in your shop, as on the samples processed in their laboratories.

Get this new FREE CIRCULAR

Roto-Finish COMPANY

3704 MILHAM ROAD, KALAMAZOO, MICH.

P. O. Box 988 — Phone 3-5378

It's the finish that counts

Finishing Clinic

(For Finishing Problems)

Question. *Some years ago your publication published an article on the Bullard-Dunn process for descaling steel parts.*

Would it be possible for you to furnish us with a copy of this article, or advise where it may be obtained?

G. F. C.

Answer. The article on the Bullard-Dunn process for descaling steel parts was published in the April, 1937, issue of PRODUCTS FINISHING. Our stock of extra copies of this issue has long since been exhausted but more complete information on this process may be obtained from The Bullard Co., Brewster and Canfield Sts., Bridgeport 2, Connecticut.

Briefly, the process consists of electrolytic alkaline cleaning and subsequent descaling of steel parts in an acid solution in which a small amount of tin has been dissolved. As the acid removes the scale from the steel surface the surface then becomes conductive and is coated with a thin electroplated film of tin. The thin tin coating protects the steel from further acid attack and is removed from the steel parts by reverse current in a final alkaline solution.

——— *fc* ———

Question. *We are manufacturing a woodworking vise (see attached literature) on which we have a plating problem.*

We are zinc plating the handle screw and nut on this product but have had trouble with the parts discoloring after a short length of time. We plate these parts mainly to present a nice appearance and desire something that will do this job and yet not be too expensive.

Any suggestions on the plating of these parts will certainly be appreciated.

R. W. S.

Answer. There are on the market bright dips for zinc plated parts to eliminate just the trouble which you have been experiencing. Zinc plated parts are dipped in these solutions and then rinsed and dried in the usual manner. For information concerning bright dips for zinc we should like to refer you to the following manufacturers: (names furnished.)

Question. *Can you suggest any publication that treats with metal cleaning on a solvent degreaser versus caustic water-spray basis?*

A. R. F.

Answer. Your recent letter requesting information on a publication which compares metal cleaning by solvent degreaser or alkaline water is most interesting because it points up a subject of discussion that is industry-wide. Frankly, our feeling about this matter (and this is borne out by many, many plant studies) is that each method of cleaning has its application and the value of a specific process will be determined by the job to be done and comparative cost figures.

Such figures can only be supplied to you by equipment manufacturers and then only after they have made a complete survey of your cleaning requirements. You are probably familiar with the various equipment and cleaning material manufacturers, but in the event you are not we are attaching a list of such companies.

———— *fc* ————

Question. *We have done a small amount of silver plating with no anticipation or expectation of increasing our quantity. We have had comparably good success, but feel that better quality will be obtained through additional assistance from you.*

Could you give us a brief outline of the complete operation and chemical compositions of cleaning solution, plating solution, current density and plating materials, procedures for copper flash and removal of oxide from silver plated parts? *D. S.*

Answer. One of the most complete, detailed articles on silver plating was published in the December, 1949, issue of PRODUCTS FINISHING and since our stock of copies of that issue has long since been exhausted we are forwarding to you a typewritten copy of the article.

We suggest also that you contact the following suppliers of precious metal plating solutions: (Names furnished.)

———— *fc* ————

Question. *We have recently experienced difficulty in hard chrome plating of lamp shade moulds, resulting in pitted deposits. The bath solution is clear and free from iron and chloride ions. Ratio of chromic acid to sulfate is 100.1; tin-lead anode is 6 per cent tin. The surface of the base material is good. I have tried various temperatures, current densities, and concentrations of the solution with no good result. Can you tell me what might be the reasons for such pitted deposits and the remedy therefor? Can the anode be a contributing factor?*

N. C. R.

Answer. I cannot see any factor in your solutions or operating conditions which might cause trouble. Generally, hard chromium plating is not difficult if the metal surface is properly prepared. Actually, it is metal surface preparation which is one of the two really important factors in hard chromium plating. The other important factor is rack design and technique.

It is quite possible that the pitted deposit which you mention is resulting from improper surface preparation or from the base metal itself. Some of the newer steels are quite troublesome, but I have not heard of pitting being one of the difficulties.

One other possibility which might be causing trouble is that of faulty electrical circuits which might be setting up stray currents. I believe if you will follow some of the suggestions outlined in the article which I am sending you with particular reference to surface preparation and racking, you will overcome your difficulties. Although lead-antimony anodes are used more commonly, it is not likely that your tin-lead anodes are causing your trouble.

May We Help You?

We will be glad to help you with your finishing problems. Why not use the form below mailing it to PRODUCTS FINISHING, 431 Main St., Cincinnati 2, Ohio.

My problem is: _____

_____

_____

_____

_____

_____

I need the following information: _____

_____

_____

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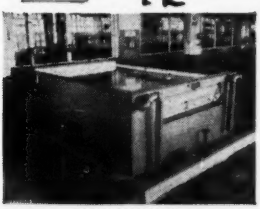
(Signed) _____

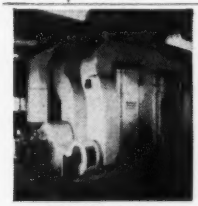
(Company) _____ (Address) _____

_____

HANDY MAN to INDUSTRY



LEAK TEST TANK



TWO COMPARTMENT DEHYDRATION OVEN

FOUR COMPARTMENT DEHYDRATION OVEN

EXIT OF 4 STAGE HI-PRESSURE CLEANING UNIT

ENTRANCE & EXIT TO UPPER DECK PRIME OVEN ON ROOF OF 7 STORY BUILDING

DOUBLE DECK ROOF OVEN

Peters-Dalton Designs And Manufactures Installations Of All Kinds For the Appliance, Electrical Equipment, Office Furniture and Transportation Equipment Manufacturing Industries

Whatever your plans or needs may be for Finishing Systems, Drying and Baking Ovens, Industrial Washing Equipment or Dust Collecting Systems, PETERS-DALTON engineers are ready and able to offer the solution. Recognizing the importance of space conservation, Peters-Dalton engineering starts from plant layout to the ultimate installation of the right type of equipment pertinent to each particular plant . . . not "off the shelf" equipment—BUT tailor-made for the job.

Typical of Peters-Dalton planned engineering are the photographs shown here. They present some of the P-D installations in a multi-storied eastern manufacturing plant. Here, versatility was required—versatility such as P-D know-how and ability to install for proper functioning such varied components as: dehydration ovens, leak test tanks, power spray washers and baking ovens. Efficient and time-saving, these P-D units are in operation on various floors of this plant, to and including a space conserving roof top installation.

Versatility such as this demonstrates P-D ability to take over your plant-wide problems . . . accept the responsibility until *production-ready*—to engineer the layouts, designs and installations up to complete Finishing Systems. Call with confidence upon P-D to solve your problems . . . meet your needs. Just write, wire or phone.

- *Hydro-Whirl Paint Spray Booths*
- *Industrial Washing Equipment*
- *Drying and Baking Ovens*
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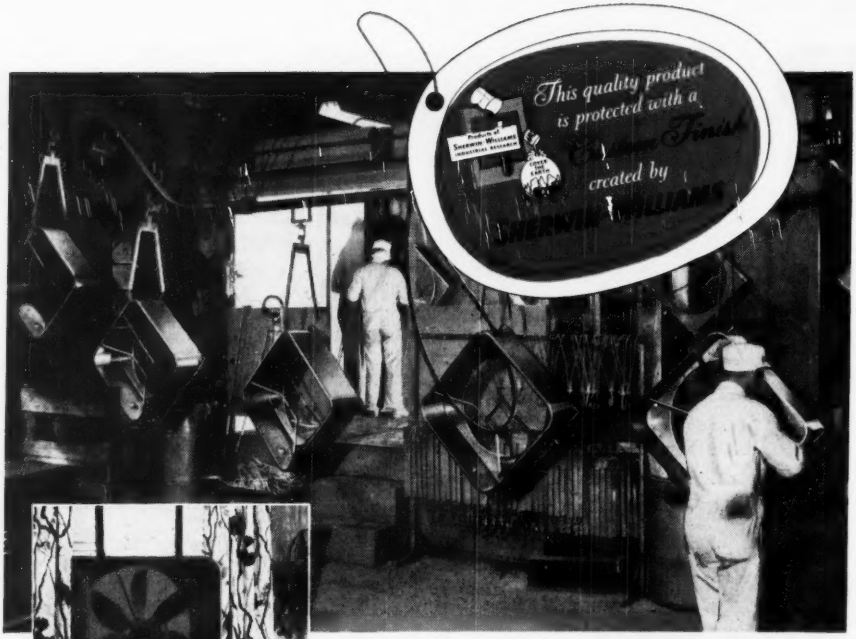

Modern water-wash spray booths are used in applying Sherwin-Williams Fan Enamel to Reed fan cases.

"LIVING ROOM" BEAUTY for window fans

with modern Sherwin-Williams baked finish

Many homes, for many years, have found cooling comfort with window fans produced by Reed Unit-Fans, Inc., New Orleans. Important among the sales features which have won Reed Fans a place of prominence in homes, large and small, is their luxurious, Sherwin-Williams baked-enamel finish.

Reed Unit-Fans take pride in their finish . . . feature it with identifying tags supplied by Sherwin-Williams. It's another example of the double-barreled sales help Sherwin-Williams offers . . . with finishes to fit the application, backed by the sales support of the best-known name in finishes.

Why not find out what this help can offer you in meeting production or selling problems? Call, wire or write. The Sherwin-Williams Co., General Industrial Division, Cleveland 1, Ohio.

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INDUSTRIAL FINISHES

why wait for SPECIALS?

call for KEM LUSTRAL®

the ONE close-at-hand, custom-quality, industrial enamel designed for many "special" needs

Don't let delayed deliveries of "special" finishes hold up orders! Many product finishing needs for enamels can be met with locally available, locally stocked KEM LUSTRAL.

KEM LUSTRAL can be sprayed, dipped or brushed. It can be air dried or baked—used on wood or metal—for interior or exterior use. You can use it for maintenance, too.

KEM LUSTRAL is available through your nearby Sherwin-Williams Branch in 21 brilliant, standard colors and many beautiful intermixes. Call or write for color card and details!

SHERWIN-WILLIAMS INDUSTRIAL FINISHES

Other S-W Industrial Finishes

- ☐ Furniture Finishes
- ☐ Dimenso® (Hammered Finish)
- ☐ Industrial Lacquer
- ☐ Fast Bake Enamel

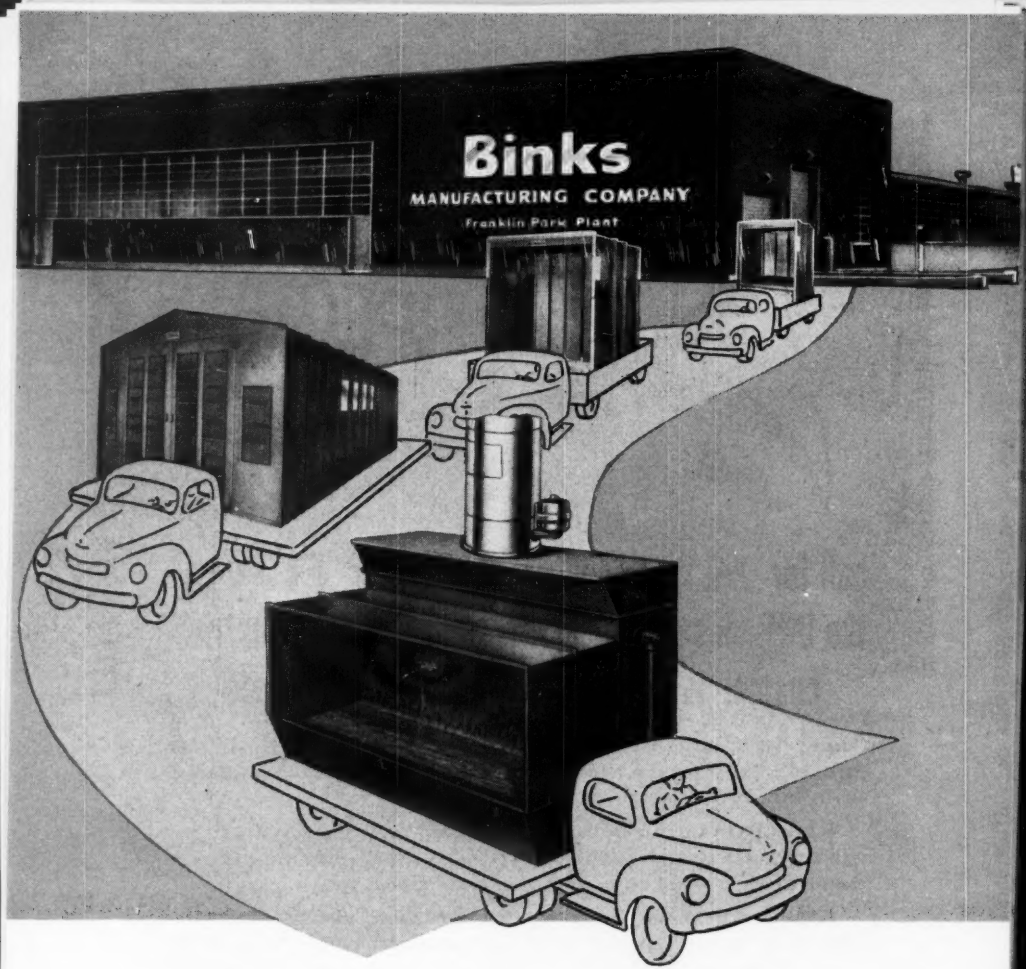
The Sherwin-Williams Co.
General Industrial Division, Cleveland 1, Ohio

Please send details on KEM LUSTRAL —also on other items checked.

NAME_____

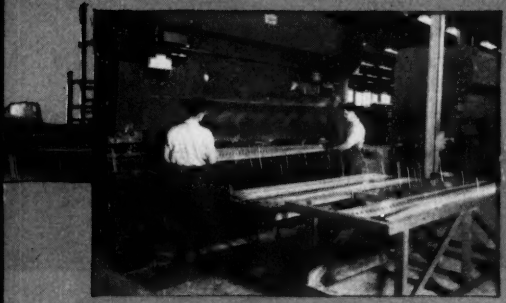
COMPANY_____

ADDRESS_____



Streamlined production brings you BETTER SPRAY BOOTHS at a real saving!

Today, you can have the most efficient spray booths on the market at a price no more than ordinary equipment...and sometimes for even less. This is possible because Binks engineers have improved and *standardized* the design of spray booths. Standard parts are assembled to provide high efficiency booths that will meet any requirements. These parts are mass produced in Binks' new Franklin Park Plant...quickly, precisely and economically. And that's why you can buy BINKS approved Spray Booths now...and actually save money.



Heavy machinery shears, punches and forms the sheet steel.

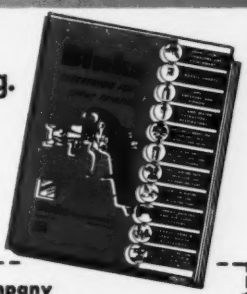
Assembly of spray booths proceeds on a production line basis.

All parts are painted in latest conveyorized spray booth.

Ample loading docks and mechanical handling equipment speeds delivery.

Write today **for our NEW 956 Catalog.**

It will tell you all about the many models of spray booths available . . . will help you pick the right equipment for your use.



Binks
EVERYTHING FOR SPRAY PAINTING

Binks Manufacturing Company
3118-40 Carroll Avenue, Chicago 12, Ill.

Send me a copy of your NEW 956 Catalog. I am interested in your complete line of standard Spray Painting Booths.

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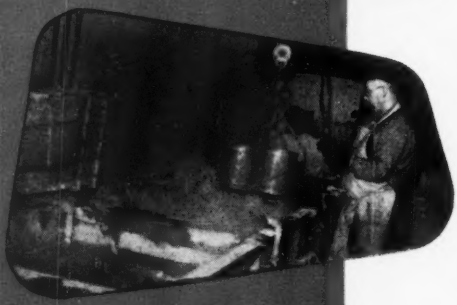
COMPANY_____

ADDRESS_____

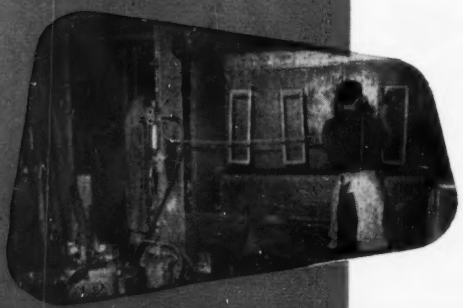
CITY_____ ZONE____ STATE_____

POLISHING



CLEANING

PLATING



FINISHING

New • EQUIPMENT • MATERIALS • PROCESSES

Phosphate Coating for Zinc

Availability of Fosbond 61, for use in producing a phosphate coating on zinc, has been announced by the Pennsylvania Salt Manufacturing Co., 527 Widener Bldg., Philadelphia, Pa.

This phosphatizing compound provides a fine crystalline coating on metal surfaces to serve as an excellent base for subsequent painting operations. Mixed with water, it is applied by spraying.

Fosbond 61 was developed at the company's Whitemarsh Research Laboratories. It is an addition to the Metal Processing Department's paint-bonding and rust resistant phosphate coatings line. While designed specifically for use on zinc surfaces, the new product may also be used on steel. This permits its use in operations where both steel and zinc are being processed.

For further data circle No. 1 on Reader Service Card inside back cover.

Wear Resistant Metal Finish

A finishing material, designated "Varna Metal Plate," has been announced by the Varna Chemical Company. It possesses exceptional gloss with 40-60 Sward Rocker hardness which is equal to approximately 85 per cent of the hardness and print resistance of glass.

Resistance features, coupled with long lasting finish, make this product desirable for appliance, automotive and general industrial uses.

Designed for a one coat system, this

finish has exceptional opacity and hiding qualities and is available in a wide range of colors including clear.

It is resistant to all solvents, gasoline, oil, and so on, as well as dilute mineral acids, strong alkaline and detergent solvents and organic acids.

It is unaffected by 5 per cent caustic soda for 30 days; 16 per cent caustic soda for 24 hours; saturated boiling salt solution for 101 hours.

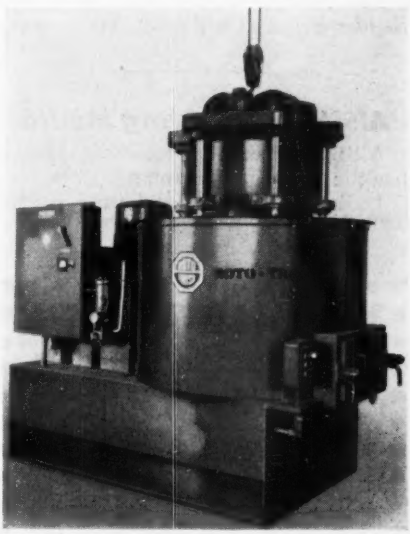
Metal-Plate is cured by heat: 70 deg. F. in 24 to 72 hours, 140 deg. F. in 2 hours, 200 deg. F. in 30 minutes, 300 deg. F. in 10 minutes.

For further information and literature write to the national distributors: Spearhead Boiler Plug & Specialty Company, 704 Woodland Ave., Cleveland 15, Ohio, or *circle No. 2 on Reader Service Card inside back cover.*

Special Fixture Machines for Precision Metal Finishing

New engineering developments by Roto-Finish Co., 3704 Milham Rd., Kalamazoo, Mich., have extended the original barrel finishing process to include entirely new special fixtures, machinery and equipment. The new machines are a departure from the generally accepted conception of the tumbling or barrel finishing process. For instance, in the Roto-Tron, fixtured parts are oscillated through an abrasive media that remains relatively static. This machine is best suited for finishing parts which are too large to be handled by the conventional Roto-Finish cylinder type of machine.

The Roto-Tron machine has proven very effective in finishing stampings, forgings and castings such as jet engine compressor and turbine blades, and flame deflectors. Also brass and steel stampings having close tolerances and requiring high finish, bezels, escutcheons, knobs, and handles. Fine finishes have been obtained also on zinc die castings such as door handles, ornaments, lamp parts, knobs, and mould-



Roto-Tron

ings at a satisfactory production rate.

Parts must be rigidly fixtured during the finishing operation. For this reason the design of the parts should be such that they can adequately resist the rather heavy pressures created by the action of forcing the fixtured parts through the processing media.

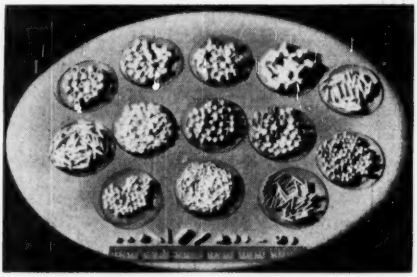
The new Roto-Tron machine has proved equally effective for dry or wet processing, depending on the kind of part and the result to be produced. The principal difference in the wet and dry machine is in the tub for holding the abrasive media. The tub for wet media has a false bottom which allows accumulating refuse to drain away from the mass proper. It can be flushed from the machine without disturbing the main body of the abrasive media. Dry media can be used in a similar machine using a deeper tub for holding the abrasive media than the tub used for the wet processing machine.

For further data circle No. 3 on Reader Service Card inside back cover.

AlSiMag Tumbling Media

AlSiMag ceramic tumbling media has the following advantages:

1. Extremely hard and wear resistant.



AlSiMag Tumbling Media

2. Chemically inert.
3. Can be used wet or dry.
4. Light in weight, specific gravity from 2.0 to 4.0, depending on composition.
5. Many standard sizes and shapes of media are now available. Custom made sizes and shapes available promptly at reasonable cost.
6. Selection of the most favorable size, shape and weight of media can greatly improve quality, reduce tumbling time and cost.

Suggested uses: for polishing and de-burring light articles such as plastics, wood, light metals. Can also be used as milling or blending media in ball mills and as slurry carriers in wet tumbling.

Samples of AlSiMag tumbling media sent on request.

Manufacturer: American Lava Corp., a subsidiary of Minnesota Mining & Manufacturing Company, Chattanooga 5, Tennessee.

For further data circle No. 4 on Reader Service Card inside back cover.

Nickel Sulfamate Plating Process

An improved nickel sulfamate plating process, developed by Hanson-Van

MASKING TAPE
DIE-CUT TO YOUR EXACT SPECIFICATIONS FROM
SCOTCH BRAND
INDIVIDUAL PIECES • ANY SIZE OR SHAPE
For quick, accurate masking operations.
PHONE OR WRITE PANOCO
166 HENRY STREET, STAMFORD, CONN.

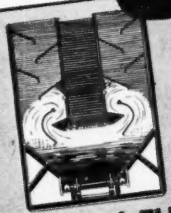
Now more than ever

PLANT ENGINEERS PREFER

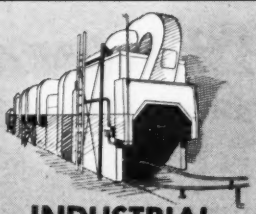
Schmieg CENTRI MERGE INDUSTRIAL EQUIPMENT for

- ✓ Long, Trouble-free Performance
- ✓ Low Maintenance Costs
- ✓ Ease of Installation
- ✓ Space-saving Economy

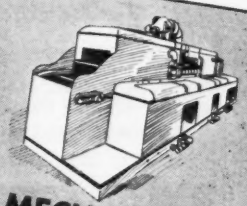
GET THE FACTS about SCHMIEG Equipment Before you Decide:



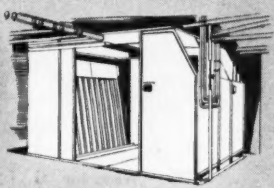
DUST and FUME ELIMINATORS



INDUSTRIAL OVENS



MECHANICAL WASHERS



SPRAY BOOTHS

All SCHMIEG equipment is designed, engineered, manufactured, and installed with the fundamental objective of protecting and improving the quality of the product you manufacture.

CONSULT SCHMIEG ENGINEERS and find out how a SCHMIEG installation will keep your plant operating at highest efficiency levels at lowest possible cost.

THE best AIR PURGE is CENTRI MERGE

Schmieg INDUSTRIES INC.

Engineers & Manufacturers

P. O. BOX 4701 • DETROIT 34, MICH.

Winkle-Munning Co., plates 75 per cent faster, is more versatile, easier to control and produces harder deposits with less brittleness than other sulfamate processes presently available.

Nickel sulfamate baths plate fast and are commonly used for applying heavy coatings in electroforming, electrotyping and re-sizing operations. The H-VW-M bath plates up to 0.007 inch of nickel per hour. Operation at current densities of 140 asf make this high speed possible.

With this versatile process, deposits of low internal stress are easily obtained, and a wide range of specific compressive and tensile stresses are also posible. Compressive stresses from zero to -9 x 10^3 psi and tensile stresses from zero to 10 x 10^3 psi may be had by varying current density, temperature and concentration of the bath's addition agent.

Stress characteristics obtained with these variables have been charted. Users of the process may obtain operating conditions for desired stress by reading them right off the chart.

The H-VW-M bath is made up of nickel sulfamate, nickel chloride, boric acid and an addition agent. Pitting is no problem with this bath, and solutions do not require a wetting agent. Purity of the new bath consequently is higher, and complete analysis of all constituents is possible.

Commercially tested, the H-VW-M bath has been operating for several months in an electroforming installation and for 10 months in an electrotyping foundry. As an example of the hardness obtainable without abnormal

Investigate this CLAIR Machine

...for Surface Finishing your products!

★ FROM ROUGH GLAZE TO MIRROR FINISH

★ MAXIMUM EFFICIENCY

★ LOWEST OPERATING COST

CLAIR Model 203

SURFACE FINISHING MACHINE

Vacuum chuck solves problem of surface finishing non-magnetic items, including brass, copper, silver and aluminum. Work surface is 38″ wide x 48″ deep.

A FEW APPLICATIONS

Compacts, cigarette cases, lithograph sheets, flatiron sole plates, blanking stock, kick and push plates, fan blades, name plates, escutcheon plates.

Write for Bulletin 203

CLAIR MANUFACTURING CO., INC.

Specialized Machine Equipment For Glazing and Polishing Operations

OLEAN, N.Y.

Get Better Results On

AUTOMATIC BUFFING

With the Famous

Williamsville CUTMASTER

Bias-cut construction — perforated steel center — perfect balance throughout . . . these CUTMASTER features give you cooler, longer runs without burning or raveling — save compounds, too. Ask us to show you how CUTMASTER Buffs can produce better results in your plant now. Write, wire or phone!

WILLIAMSVILLE BUFF DIVISION EST 1893 A1 ® DANIELSON CONNECTICUT

WILLIAMSVILLE BUFF DIVISION

The Bullard Clark Company

DANIELSON, CONNECTICUT

brittleness, electrotype plates at the printing installation prepared in the new bath have lasted 50 per cent longer in smooth-stock printing and approximately 35 per cent longer in carton printing than conventionally-coated plates.

Additional features of the H-VW-M process include: (1) heavy deposits (up to ½ inch); (2) air agitation; (3) uses any type high purity nickel anode. For easy handling, nickel sulfamate is packaged as a dry salt in fiber containers. It is customarily packaged as a solution and shipped in carboys.

Composition of the new bath is nickel sulfamate, 36-44 oz./gal.; nickel chloride, 4-6 oz./gal.; boric acid, 4-6 oz./gal.; and SN-1 addition agent, 0.5-1.5 oz./gal.; pH is 3.5 to 4.2 (electrometric) and nickel content 10 oz./gal. Temperature range, 75 to 140 deg. F.; current density, 20 to 140 asf.

Like conventional baths, this bath has high conductivity and excellent anode corrosion. Anode and cathode efficiencies are in close balance, making for stable composition for long periods. The bath is not sensitive to impurities, either organic or metallic. If excessively contaminated it can be purified with activated carbon and low current density electrolysis.

Heating, filtering and pumping equipment may be made of Karbate, nickel or rubber, and lined with Koroseal or Saran. Stainless steel may be used in spots where the bare metal cannot become anodic.

For further information, write to Warren McMullen, Hanson-Van Winkle-Munning Co., Matawan, N. J., or *circle No. 5 on Reader Service Card inside back cover.*

4 CORROSION CONTROL SERVICES . .

1. **SYNTHETIC RESIN COATINGS** — Application of Vinyl, Epon, Baked Phenolic, Neoprene, Thiokol Coatings in the MW Plant and in the field. RR siding for lining tank cars.
2. **RUBBER LININGS** — Rubber and Koroseal Sheet Linings applied to tanks, pipe, process equipment, etc.
3. **METALLIZING** — Metal Spraying to build up parts, rolls, shafts, journals, etc. Sprayed Zinc and Aluminum for Corrosion Protection.
4. **SURFACE CLEANING** — Sand and Steel Grit Blasting in the large MW blastrooms or in the field.

Send Us Facts or Ask for Literature!

PROTECTIVE COATINGS DIVISION
METALWELD, INC.
Scotts Lane & Cresson Ave.
Phila. 29, Pa • Victor 8-1810

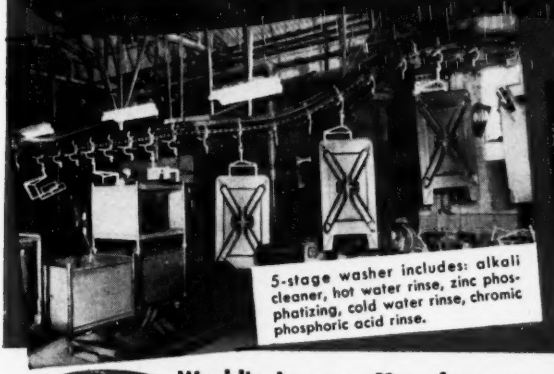
Peel-Kote Plastic Coating

The development of a spray-on, peel-off type plastic package has been announced by Vernon K. Jack, sales manager of Munray Products, Inc. This product is designated as "Peel-Kote."

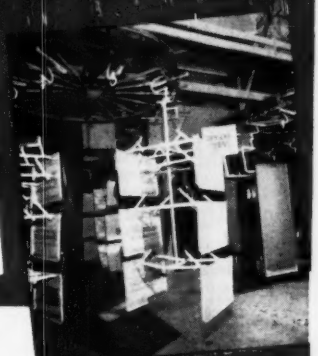
Peel-Kote possesses extremely high adhesion characteristics and at the same time will peel off rapidly in continuous easy-to-handle strips. Peel-Kote's high solids content permits fast, heavy buildup of film for maximum protection of metal and easier strippability.

Peel-Kote is especially suitable for the packaging and protection of high polished or plated industrial parts and products, building materials such as metal cove, stripping and sash, polished marble, hardware items, hospital and medical equipment, kitchen cutlery, electrical components, giftwares, and metal furniture.

PRODUCTION INCREASED 150% with DESPATCH FINISHING SYSTEM



5-stage washer includes: alkali cleaner, hot water rinse, zinc phosphatizing, cold water rinse, chromic phosphoric acid rinse.

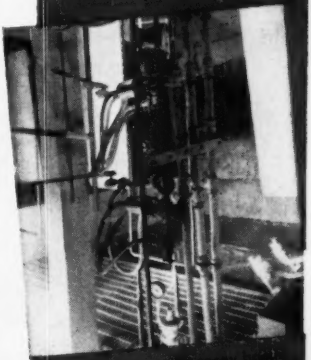


Amana

World's Largest Manufacturer of Food Freezers Expands

As part of a major expansion program Amana Refrigeration, Inc., Amana, Iowa, installed a DESPATCH 2-coat, 2-bake electrostatic paint finishing system with a capacity of 400 freezers and 200 room air conditioners on an 8-hour shift. The new streamlined system is credited with increasing Amana's production by 150%, has greatly improved finish quality and has achieved substantial paint savings through more efficient paint application and paint reclamation processes.

Ware travels on a 27-foot continuous conveyor through 5-stage washer, dry-off oven, prime and finish staggered electrostatic spray booths, prime and finish touch up booths, prime and finish multiple pass bake ovens and inspection area to three assembly lines.



A COMPLETE SYSTEM OR A SINGLE UNIT

Despatch Finishing Systems are designed and built to finish your product better, faster and more economically. You can get a complete system or an individual unit. Write, Wire or Cad Dept. C for details.

DESPATCH OVEN COMPANY

Minneapolis Office: 619 S.E. 8th

Chicago Office: 4554 N. Broadway

Sales and Service in all Principal Cities

PIONEERS IN ENGINEERING HEAT APPLICATIONS FOR INDUSTRY

Peel-Kote has a high degree of elasticity, has high resistance to abrasion and when dry will not support combustion. It is normally sprayed, but special formulations can be supplied for dipping. It is immune to the attack of most corrosives and the manufacturer claims it can be stored indefinitely without any undesirable effects.

In addition to ease of application, enhanced appearance and protection of product, Peel-Kote can be left on during final installation of some products to give maximum protection to the surface right up to the time of actual end use.

For additional information write to Vernon K. Jack, sales manager, Munray Products, Inc., 12400 Crossburn Ave., Cleveland 11, Ohio, or *circle No. 6 on Card inside back cover.*

Peel-Kote is easily removed when desired.

Selenium Rectifier

Kocour Selenium Rectifier Model 25A is a self-contained power supply.

Kocour Selenium Rectifier Model 25A

AC input 110 volts 60 cycles. DC output 6 volts, 25 amperes continuous duty ratings. Full wave bridge type selenium rectifier stack; powerstat single knob continuously variable control over entire range. Thermoswitch protection against overheating. No installation or maintenance, ideal DC power supply for individual tank, small plating barrel, battery charging, research and control.

Write for literature to Kocour Co., 4814 S. St. Louis Ave., Chicago 32, Ill., or *circle No. 7 on Reader Service Card inside back cover.*

Electrocleaner for Brass and Copper

Oakite Products, Inc., manufacturer of specialized cleaning and related materials, has announced the development of Oakite Composition No. 191, a material for electrocleaning copper and

ACME Automatics

FOR HIGH PRODUCTION at LOW COST on

POLISHING and BUFFING • DE-BURRING
WIRE BRUSHING and MICRO-FINISHING

• Proved performance and dependability in industry for half a century

RECOMMENDATIONS and QUOTATIONS

• We will be pleased to receive blue prints or preferably finished and unfinished samples of the part you contemplate finishing together with detailed information on present finishing operation and production requirements. On receipt of samples and data we will offer recommendations and quotations.

CATALOGS ON REQUEST

ROTARY STRAIGHT LINE SEMI-AUTOMATIC AND SPECIAL *Polishing and Buffing Machinery*

SPECIAL MACHINERY — AUTOMATIC BUFFING MACHINES

ACME Manufacturing Co.

Builders OF AUTOMATIC POLISHING AND BUFFING MACHINES FOR NEARLY HALF A CENTURY

1400 E. 9 MILE RD., DETROIT 20 (Ferndale) MICH.

its alloys prior to plating. The new cleaner is said to possess special ingredients that reduce tarnishing of work in the higher-temperature cleaning range, or where long treating cycles or prolonged transfer periods may occur.

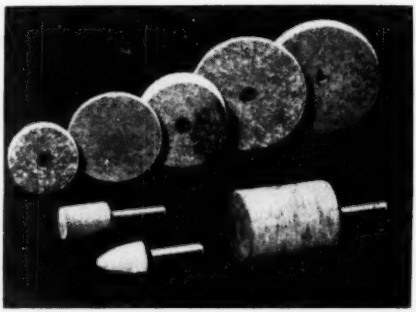
Oakite Composition No. 191, the manufacturer states, is a free-flowing, fast-dissolving granular product whose solutions are colorless and have little or no odor. Among the advantages claimed for this material are: long solution life; broad current-density range; wide temperature range, 160 to 210 deg. F.; cleans at low concentrations; removes buffing dirt and other common soils rapidly; has excellent rinsability in both hot and cold water; keeps tarnishing at a minimum. For ordinary applications of this material, recommended concentrations start at 5 oz./gal., rising slightly as the solution ages, to compensate for loss due to dragout and carbonation of solution from carbon dioxide in the air.

Further data regarding this new electrocleaning material for brass and copper will be sent, without charge, to readers writing on company letterhead to Oakite Products, Inc., 120 Rector Street, New York 6, N. Y.

DANIELS
#4 OLS
in unloading position
PLATE SMALL PARTS
with the DANIELS OLS
For plating die castings, stampings, screw machine parts, castings or any small parts in bulk, this Daniels OLS Oblique Plating Barrel is unsurpassed.
Write for complete details today
DANIELS PLATING BARREL & SUPPLY CO.
Electroplating and Polishing Equipment and Supplies
129 Oliver Street, Newark 5, N.J. • Tel. MArket 3-7450

Flexible Abrasive Wheels

The Metal Removal Co., 1546 N. Orleans, Chicago 10, Ill., has introduced Flextex, an abrasive product line consisting of mounted points, straight wheels, depressed center discs, and cutoff wheels.

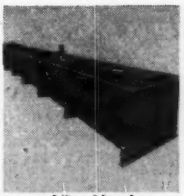


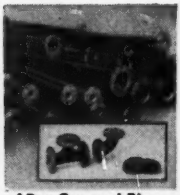
Flextex Abrasive Products

Flextex is an all purpose wheel for roughing and finishing in one operation. It is a blending of abrasive grains, synthetic fibers, and a specially developed binding agent. Being resilient and flexible, these abrasive products are stated to absorb shock, reduce chatter, and resist loading. Efficient cutting and polishing in one operation is made possible with Flextex because of its extreme strength and the cushioning action which eliminates grinding marks.

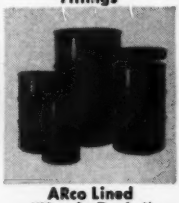
● To electroplaters and plating department heads in every section of the nation, the name ARco is symbolic of broad engineering knowledge . . . advanced methods and equipment . . . bringing top plating results.

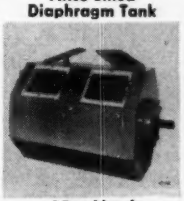
Corrosion-resistant ARco rubber coverings are applied to tanks and accessories, Diaphragm Systems, Parts Separators, Air Agitation Systems, Grids and Screens, Ventilation Equipment, Pipes and Fittings, Materials Handling Equipment. For expert advice on economical, efficient rubber applications to electroplating equipment, call on ARco Engineers. Their help is offered to you without obligation.


ARco Lined Open Tank


ARco Covered Pipe, Fittings

ARco Lined Diaphragm Tank


ARco Lined "Handy-Tanks"


ARco Lined Tumbler

ARco Insulated Handling Equipment

ARco Materials, Equipment, Engineering and Service . . . Vital To Better Electroplating

. . .assure improved plating quality and production!

AUTOMOTIVE RUBBER CO., INC.
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FIELD SERVICE UNITS
ARco Field Service Engineers bring their "know-how" and equipment right into your plant. Permanently installed or large equipment can be fabricated and covered on the job by Field Service Units. (Licensed Saran Applicators).

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Please rush me _____ copies of your "Diaphragm Tanks Promote Plating Progress."
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Flextex abrasive products are fast cutting and self-dressing on deburring, polishing, weld grinding, and general abrading of tough, difficult-to-grind metals.

For further data circle No. 8 on Reader Service Card inside back cover.

Barrel Finishing Machine

Manufacturer: Almco Div., Queen Stove Works, Inc., 505 Front St., Albert Lea, Minn.

Model DBO-1A Barrel Finishing Machine features a built-in panel mounted, all-in-one control and drive unit conveniently located at the rear of the machine for easy maintenance. A complete unit in itself, containing two loading and screening drawers for loading and unloading and the separation of parts from media, Model DBO-1A also features 12 to 50 r.p.m. variable speed drive; compact design, occupying one cubic foot less floor space than previous models; all welded, heavy gauge steel construction; all aluminum Almco cam-operated door for easier and faster loading and unloading; and self-aligning bearings with zerk fittings and expanded retainer "dirt-seal" rings. Recommended by the manufacturer for processing small lots of parts; for close tolerance processing; for large lots of very small parts; for sample processing; and for finishing research and development work. Barrels of this model may be positioned before lifting the safety hood with safety screen windows.

For further data circle No. 9 on Reader Service Card inside back cover.

Barrel Finishing Machine

Corrosion Resistant Exhaust Fans

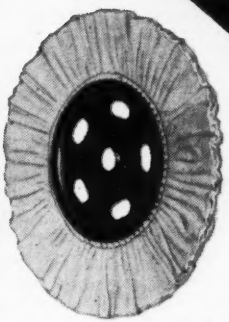
Two complete lines of exhaust blowers protected for corrosion and abrasion service have been announced by Heil Process Equipment Corp., 12901 Elmwood Ave., Cleveland 11, Ohio.

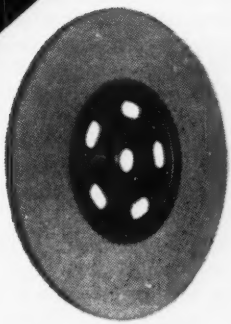
A compact, self-contained coated exhaust fan set, designed for services ranging from simple ventilating to handling of moderately corrosive atmospheres, is available in blower capacities from 300 to 7000 c.f.m. For service with corrosive elements, units are supplied with either baked phenolic, vinyl or tough latex coatings to resist a wide range of chemicals. A complete line of heavy duty rub-

FORMAX

the Perfect Combination

FROM START TO FINISH





ZIPPO CLOTH BUFFS

These famous long-wearing buffs run cool under all buffing conditions. High count bias-cut cloth is assembled on ventilated steel centers. Each section is perfectly balanced and faced—requires no raking.

BUFFING COMPOUNDS

Formax produces a complete line of buffing compounds in bar, tube and liquid form.

Our extensive manufacturing, laboratory and testing facilities are at your disposal.

ZIPPO SISAL BUFFS

You have a pleasant surprise coming if you haven't tried the new Zippo bias-type sisal buff. It was specifically developed for steel buffing—to blend polishing grit lines—to cut down stainless steel—and bring up a bright lustre.

Other Formax products include the well-known C-20 Flexible Contact Wheels and F-26 Abrasive Belt Grease Stick.

Descriptive Catalogs Sent on Request

FORMAX MFG. CORP.

DETROIT 7, MICHIGAN

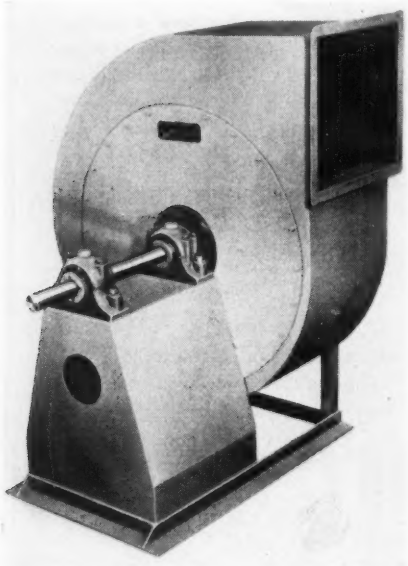
"THE FOUR McALEERS"

ber covered blowers for rugged service in severe corrosive or abrasive conditions has been made available in blower capacities from 750 to 54,000 c.f.m. Units are protected against fumes of sulfuric, hydrofluoric and other rough mineral acids by application of one of several types of high grade rubber including natural and Neoprene, depending on service requirements. Fans, of paddle type design, are dynamically balanced for smooth operation, and maintain efficient suction at hoods despite varying static losses in the overall system.

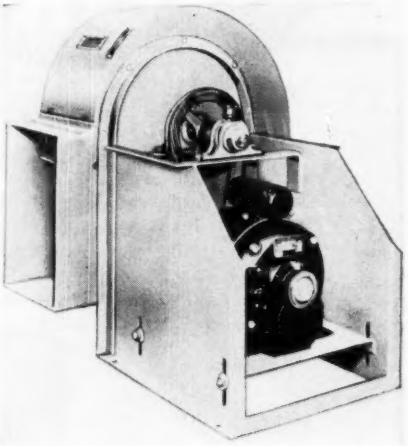
Also available are either lined steel exhaust hoods and ducts, or exhaust hoods and duct systems constructed of Rigidon, glass reinforced plastic, or Rigivin, rigid vinyl type plastic.

Complete engineering data and specifications showing blower sizes and horsepower ratings are available.

For further data circle No. 10 on Reader Service Card inside back cover.



Rubber Covered Blower



Self-Contained Exhaust Fan Set

Aluminum Cleaner

Northwest Chemical Company, 9310 Roselawn, Detroit 4, Michigan, has announced the development of Acid Solvent Emulsion Cleaner #1 — a new chemical for completely removing soil from fabricated aluminum parts prior to finishing.

Northwest Acid Solvent Emulsion Cleaner #1 prepares the surface for any type of final finishing whether it be plating, painting, anodizing, zinc chromate priming or other methods.

Acid Solvent Emulsion Cleaner #1 is non-corrosive. It will not harm the metal no matter what the bath temperature or how long the immersion time.

Easily rinsed, fast cleaning, and easily controlled—Northwest Acid Solvent Emulsion Cleaner #1 is readily emulsifiable, Northwest Acid Solvent Emul-

It's always Dirty Weather in Parker's torture chambers

WE OPERATE three torture chambers in Detroit. They are the accelerated testrooms, where we can concentrate in days or weeks what will happen to a product's finish in years of service life.

The rooms are always full. Full of test panels and customers' production pieces undergoing the humidity and salt spray to see how their finishes stand up.

Here we can show a manufacturer how much protection he gets with a Parker product such as Bonderite or Parco Compound. We can check a customer's production-treated part against a laboratory-treated part. We test our new products, our improved products – and our old products – to be sure that our high standards are maintained.

The accelerated test program is one of many unmatched services offered to Parker customers and prospects. It's another reason for you to *call on Parker for quality surface treatments for metals.*

*Bonderite, Bonderlube, Parco, Parco Lubrite — Reg. U. S. Pat. Off

Since 1915— leader in the field

PARKER
RUST PROOF COMPANY
2172 E. Milwaukee, Detroit 11, Mich.

BONDERITE corrosion resistant paint base
BONDERITE and BONDERLUBE aids in cold forming of metals
PARCO COMPOUND rust resistant
PARCO LUBRITE wear resistant for friction surfaces

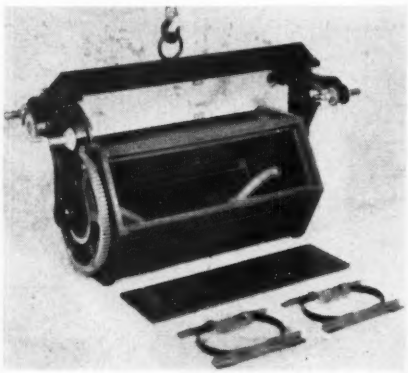
sion #1 is non-toxic and safe to use.

The company offers to process sample parts to prove the excellent job done by Acid Solvent Emulsion Cleaner #1.

For further data circle No. 11 on Reader Service Card inside back cover.

Plating Barrel Cylinder

The Udylite Corporation, Detroit 11, Mich., has announced the development of a plating barrel with a cylinder made of Tempron hard rubber.



Udylite Plating Barrel

Tempron withstands, even under load, higher temperatures than have been possible to use with a thermoplastic material. Udylite Tempron cylinders can be used most effectively through the entire plating cycle. Tempron has better abrasion resistance and withstands stronger acids.

Udylite's new design and construction, (Patents applied for), offer greater strength. The ingenious system of interlocking panels and ribs not only makes it stronger but also permits the easy individual replacement of component parts whenever necessary.

Udylite also offers a Teflon liner or membrane with very small perforations, smaller than can be obtained by conventional drilling methods. This liner can be installed in the new cylinder with only minor modifications.

For further data circle No. 12 on Reader Service Card inside back cover.

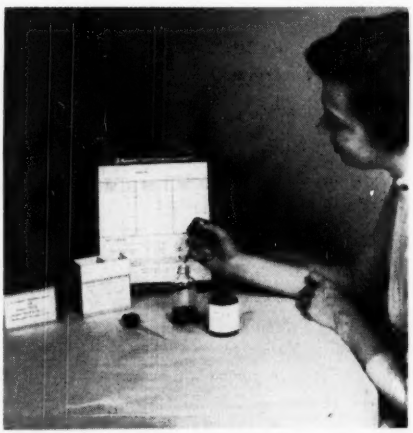
Industrial Teskit

A simple teskit for controlling metal cleaning solutions that can be accurately operated by even untrained personnel has been released by Wyandotte Chemicals Corporation, Technical Service Department. By varying the testing solutions, the one basic Wyandotte Teskit is adaptable to all industrial products in the Wyandotte line, except emulsion cleaners.

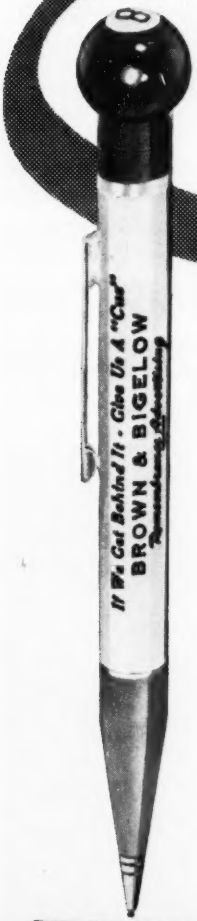
The Wyandotte Industrial Teskit makes it possible to keep solutions of

Alkaline Soak Cleaners

Water Wash Spray Booth Compounds



Wyandotte Industrial Teskit set up for use with Flote—water wash spray booth compound.



⇦ We never leave 'em behind the 8 ball!

A CASE HISTORY ON SOLVING A LACQUER PROBLEM FOR BROWN & BIGELOW

Brown & Bigelow mechanical advertising pencils are known from coast to coast. Not so well known is the important role played by PYROXCOTE lacquer materials in the manufacture of these pencils.

Unlike many competitive pencils, the Brown & Bigelow product never feels tacky in hot weather — never discolors nor stains — never picks up color from carbon paper.

PYROXCOTE lacquer is applied directly over printing on the plastic barrels of these pencils. This special coating does not induce plasticizer migration from the plastic—neither does it distort nor swell the ink impression. PYROXCOTE has perfect color stability — has that pleasant smooth "feel".

PYROXYLIN PRODUCTS, Inc.
CHICAGO 32

WRITE TO OUR NEAREST OFFICE FOR PROMPT INFORMATION

PAOLI PENNA.

WICHITA KANSAS

Electrocleaners
Phosphating Cleaners
Rust Removers
Metal Etchants

under instant control by a simple, non-technical testing procedure which any one can use accurately and quickly. Metal processors having laboratory facilities will find that the new Wyandotte Industrial Teskit will augment and speed their present systems.

Each Wyandotte Industrial Teskit contains two bottles. One is equipped with a dropper and contains a label showing the name of the Wyandotte product which it is designed to test. The second bottle contains a pipette-type dropper and has a testing level-mark scored into the glass. The bottles are neatly held in a sturdy, fiber box containing labels which give complete testing instructions.

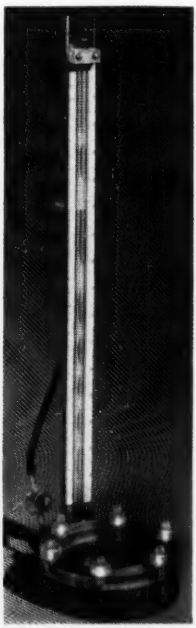
Wyandotte Chemicals Industrial Representatives and the 17 Wyandotte Chemicals District Sales Offices stock the Testing Solutions and the Teskits. Each Teskit contains sufficient testing solution for approximately 180 tests. Only a few drops of testing solution are necessary to secure accurate readings with the Wyandotte Industrial Teskit.

For further data circle No. 13 on Reader Service Card inside back cover.

IS
YOUR
PROBLEM
BURNISHING?
HOLLAND SUGGESTS:
Motor Driven Tilting Tumbling Barrels for cleaning, polishing, grinding, deburring, sanding, burnishing and various other applications.
WRITE for New Holland Equipment Catalog
J. HOLLAND & SONS, INC.

Stresometer

The Joseph B. Kushner Electroplating School, 115 Broad St., Stroudsburg, Pa., has announced the development of an instrument for measuring stresses in electroplated metals, chemically deposited metals, and paint and lacquer films. These stresses, caused by the shrinkage or expansion of the deposits are of great practical and theoretical importance in connection with the structure of the deposits. The instrument, called a "Stresometer," can readily measure stresses ranging from 100,000 psi in tension (contractile) to 50,000 psi in compression (expansive).



Stresometer

The Stresomet-

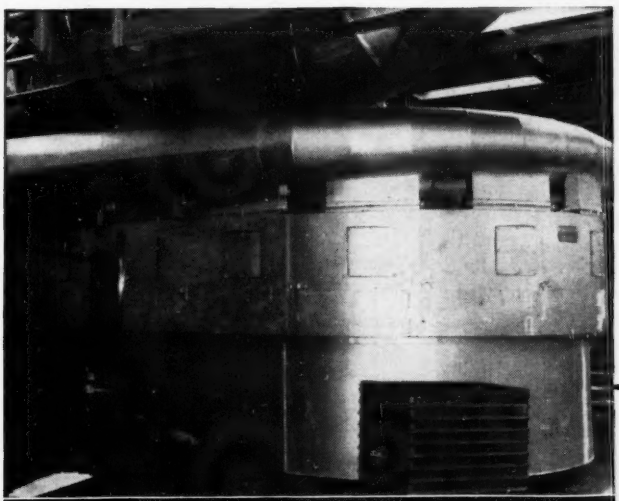
KIRK AND BLUM
FUME CONTROL SYSTEM
Saves 5 Ways..

1. REDUCES AIR VOLUME
2. LOWERS MAINTENANCE COSTS
3. CUTS REPLACEMENT COSTS
4. IMPROVES WORKING CONDITIONS
5. ELIMINATES DAMAGE TO OTHER EQUIPMENT

In large and small plants, Fume Control Systems engineered, fabricated and installed by KIRK & BLUM show substantial savings by increasing the life of costly plating equipment.

Here, a hood—with convenient access openings encircles the tanks — preventing cross currents and reducing air volume requirements.

Fumes are picked up at the outside of the tank, clean air is drawn over the machine's mechanism in the center, thereby keeping damaging corrosive fumes away from costly moving or mechanical parts.



KIRK & BLUM Fume Control on an Automatic Plating Machine in a noted auto ignition parts plant. Note hinged anode access and inspection doors just above tank top.

Write for Booklet F, showing typical installations.

The Kirk & Blum Mfg. Co.,
3116 Forrer Street,
Cincinnati 9, Ohio

er is actuated by the deflection of a simple, flat metal disc under the stress forces produced in the deposited layer. This deflection is instantly magnified more than a thousand times by a unique hydraulic arrangement so that a deflection in thousandths of an inch can be read in inches on the linear stress scale of the instrument. Stress measurements are easily, accurately and rapidly made with this rugged instrument. A U. S. Patent is pending on the device.

The Stresometer can be used directly in the plating tank for control purposes (measurement and control of stress, control of addition agents and impurities) or it can be used for research with a separate tank for correlating such factors as current density, pH and temperature, to name a few, with stress. Two models of the instrument are available. One is of high temperature lucite and is used on electroplated and chemically deposited metals; the other is of metal and is used for testing paint, lacquer and plastic films.

For further data circle No. 14 on Reader Service Card inside back cover.

Potassium Cyanide

A new form of potassium cyanide is now being distributed by the Kaynide Division of Kraft Chemical Company, Chicago, it has been announced by Gerald Kraft, general manager.

The product, known as Cya-

USE YOUR SOLVENT DRUM FOR A TANK!
CUT COSTS IN SMALL PARTS CLEANING!
with the
MANPRO BAR-L DEGREASER

Small Investment...Efficient Cleaning...No Fire Hazard...Use Any Drum and It Will Pay for Itself Quickly!

Anyone can operate the BAR-L. It consists of a heating element, work rest, condenser with a corrosion-resistant hood, and controls. *The drum in which solvent is shipped is used for the tank!*

It's completely safe! The BAR-L uses a non-explosive, non-flammable solvent.

HOW THE BAR-L DEGREASER WORKS! Solvent is heated in lower section of drum. Vapors condense on work and wash parts in about 60 seconds. Anything that fits drum can be cleaned in a BAR-L.

FREE TRIAL OFFER! Try the Bar-L in your own plant. Write Today

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MANPRO METAL CLEANING EQUIPMENT AND CHEMICALS
1354 Hilton Road — Detroit 20, Michigan
Branches: Cleveland, Ohio, and Grand Rapids, Mich.
Representatives in Principal Industrial Centers

Harmonious

Lines alone may sell a product — but *covering* is important, too! And when these two elements are blended — just so — the resulting harmony sings the sweet music of dollars earned and selling future assured . . . Because the selection of a product finish is so important, it pays to consult specialists for advice. Rockford Varnish Company technicians can help you by recommending the proper stock coating, or by developing a custom-coating for *your* product requirements alone. They'll work with you to harmonize the perfect finish with the features of the products you offer . . .

Research, Quality, Service

Affiliate
GORDON BARTELS CO.
Roller Coating Specialists

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS
Manufacturers of Protective and Decorative Coatings

Node, is cylindrical in shape about the size of a marshmallow, and weighs just one ounce. Cya-Nodes, which are formed by a cast process, are dust free, sulfur free, non-flaking, dissolve very quickly, are safe to handle, and are suitable for all electroplating processes.

Technical bulletins regarding Cya-Nodes are available from Department 100, Kaynide Division, Kraft Chemical Company, 919 West 18th Street, Chicago 8, Illinois.

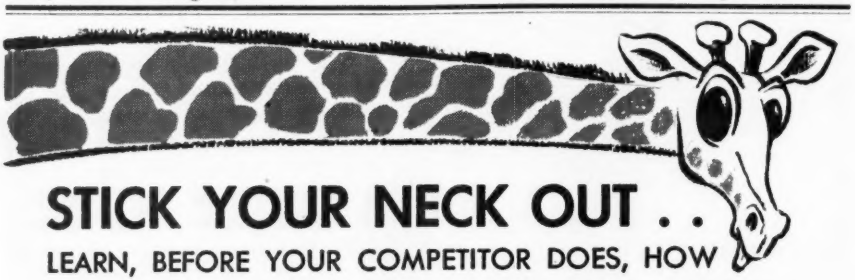
For further data circle No. 15 on Reader Service Card inside back cover.

Precision Tumbling

A tumble finishing process called "SlideHoning" has been announced by the BMT Manufacturing Corporation, Elmira Heights, N. Y.

The BMT SlideHoning equipment is a multi-barrel unit with a 48 inch revolving disc on which can be mounted as many as 25 barrels with a variable rotating speed from 11 to 28 r.p.m. and with different sizes and shapes of barrels available plus a range of mountings. The BMT SlideHoning equipment makes possible a combination of rotary, centrifugal and slide tumbling actions all at one time—not just mass-weight tumbling.

The controlled-motion-honing possible with the BMT multi-barrel unit removes burrs, flash, tool marks, rust, paint, plating, heat treating scale. Such operations as rounding corners, forming fillets, and blending chambers can all be successfully done, according to Donald Mosher, president of the BMT Manufacturing Corporation, with the finished surface and the appearance of the part materially improved. The



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LEARN, BEFORE YOUR COMPETITOR DOES, HOW

ELECTRO-POLISHING CAN HELP YOU

Electro-Glo electro-polishing concentrates mean savings to you in Time, Labor and Production Costs. Brightens, smooths and deburrs in one simple operation.

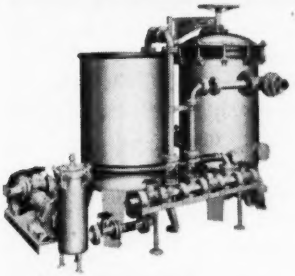
Copper Alloys.....ELECTRO-GLO #200
Austenitic Stainless Steel ELECTRO-GLO #300
Martensitic Stainless Steel ELECTRO-GLO #400
Carbon Steel..... FERRO-GLO #500

WRITE FOR DETAILS AND NEAREST DISTRIBUTOR

Electro-Glo COMPANY
1430 S. TALMAN AVE.
CHICAGO 8, ILLINOIS

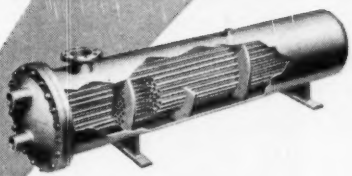
Industrial PRODUCTS

for Metal Finishing Processes



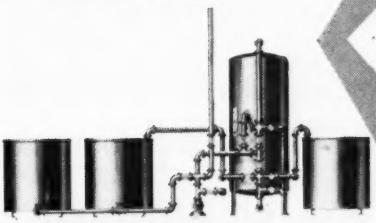
PRESSURE FILTERS

Standard portable and stationary models in capacities from 100 to 15,000 gph. Special filtering systems engineered to meet unusual conditions.



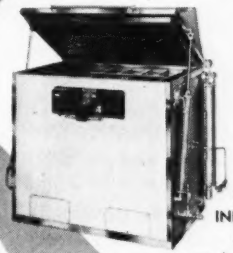
HEAT EXCHANGERS

INDUSTRIAL heat transfer units are engineered and built to individual performance specifications. Materials of construction, single- or multiple-tube types are selected to meet solution, capacity, and other condition requirements.



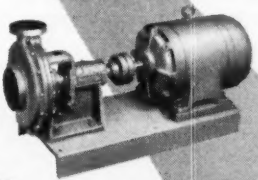
DEMINERALIZERS

Ion exchange systems for recovery of valuable metals from rinse water and for selective purification of chromate solutions. Demineralizers available for the supply of chemically pure water in any quantity.



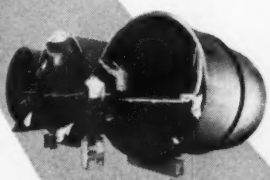
CORROSION TEST CABINETS

INDUSTRIAL corrosion test cabinets are used for either salt fog corrosion or humidity corrosion tests. The salt fog test conforms to the requirements of the Army, Navy, Air Force, the Bureau of Standards, and the recommendations of the A.S.T.M.



CENTRIFUGAL PUMPS

INDUSTRIAL centrifugal pumps are made in a range of sizes and of cast steel, stainless steel, and rubber-lined cast iron for handling corrosive and noncorrosive solutions.



RUBBER LININGS

An example of INDUSTRIAL vulcanized-rubber lining service. The proper preparation of the surface, the correct compounding of the rubber, its application, bonding, vulcanizing, and finishing assure a lasting lining of rubber for tanks, valves, pipe, fittings, etc.

5057

INDUSTRIAL FILTER & PUMP MFG. CO.

5904 Ogden Avenue • Chicago 50, Illinois

PRESSURE FILTERS
ION EXCHANGERS
RUBBER LININGS
HEAT EXCHANGERS
CORROSION TEST CABINETS
CENTRIFUGAL PUMPS

BMT equipment permits one operator to do effective finishing on a variety of work pieces, as many different parts can be done on the same machine without mixing, and both wet and dry tumbling can be done at the same time. Mr. Mosher emphasized that one BMT unit with eleven barrels is equivalent to eleven conventional tumbling machines; and that attaching and removing of the barrels requires only a few seconds.

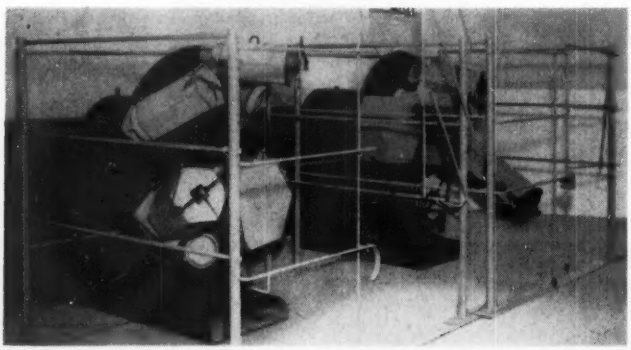
A safety cage completely encloses the BMT Multi-Barrel SlideHoning equipment and is so arranged that the gate must be closed before the machine will start. The operator can open the gate with a touch of the finger or toe and the machine will automatically stop, assuring maximum safety and greatest ease for loading and unloading of the barrels.

Two types of barrels are provided: A stud-mounted type that bolts directly to the rotating disc, and a quick-adaptor type that has a safety lever connection which permits instant mounting and removal from the machine. Angle adaptors are provided so that barrels can be mounted at an angle for the desired SlideHoning. Barrels are available unlined or with a neoprene lining. Special fixtures can also be designed to hold the part in a fixed position inside the barrel so the SlideHoning finishing will be directed to a specific area only.

Mr. Mosher invites manufacturers to send a test sample of 25 pounds—or by volume, approximately 1 cubic ft. of parts, and a desired finished piece. These test parts will be processed to the specifications desired on the BMT Multi-Barrel SlideHoning Unit. Process sheets will be furnished for cost comparisons and there is no cost or obligation for these services. Send the sample parts, prepaid, to BMT Manufacturing Corporation, Testing Dept., 103 E. 9th Street, Elmira Heights, New York.

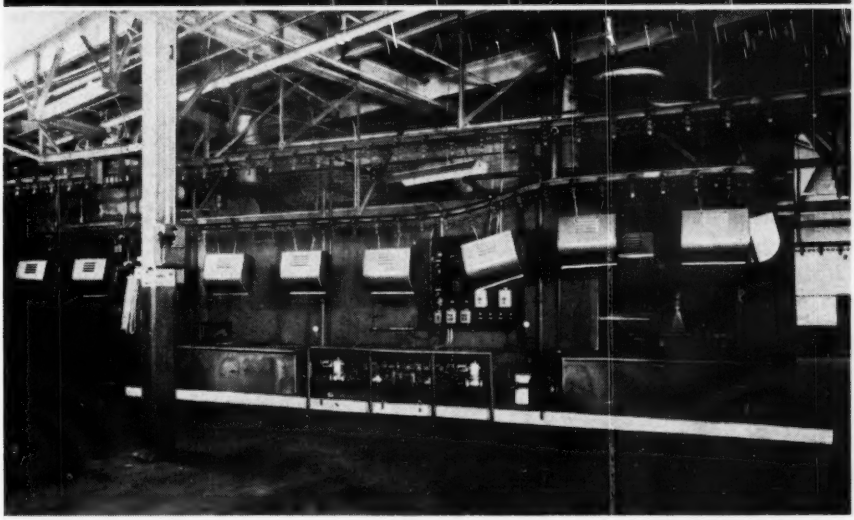
Acidic Solvent Cleaner

Enthone, Inc., New Haven, Connecticut, has announced a change in the name of a standard product. "Enthol" is the new name of the product formerly sold as Enthone Compound 42. This product is an acidic solvent type cleaner utilized for the combined cleaning and phosphatizing of iron,



Two BMT Multi-Barrel SlideHoning units for controlled precision finishing of castings, machined parts and plastics.

WHY A COMPLETE KOCH-ENGINEERED



Conveyorized FINISHING SYSTEM

IS YOUR WISEST INVESTMENT

All components are engineered to your exact requirements, fabricated for efficient installation and perfectly "dove-tailed" to prevent costly delays and last-minute changes.

Make KOCH responsible for your complete finishing system and get dividends in efficiency for years to come. Call in a KOCH engineer now. No obligation other than your consideration of our recommendations.

✸ ✸ ✸

KOCH also builds baking ovens, spray booths, metal washing equipment and air makeup systems.

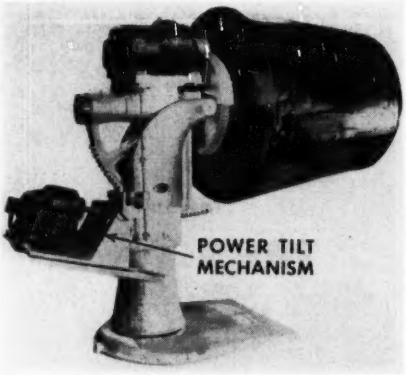
WRITE FOR FOLDER 21

GEORGE KOCH SONS, INC.
EVANSVILLE, INDIANA

steel, zinc and aluminum surfaces prior to application of organic finishing materials.

The product is exceptionally easy to use either as a wipe-on, brush-on or spray-on type of material. It may also be applied in diluted form by simple immersion. No precleaning or after treatments are required.

For further data circle No. 16 on Reader Service Card inside back cover.



Globe Barrel with Power Tilt.

Power Tilt for Direct Drive Barrels

Uniform tumbling angles, reduced operator fatigue, 20 per cent saving of floor space is achieved with Globe's line of direct drive tumbling barrels with the development of power tilting, according to Hupp Corporation

The NEW Riegel VENTILATED

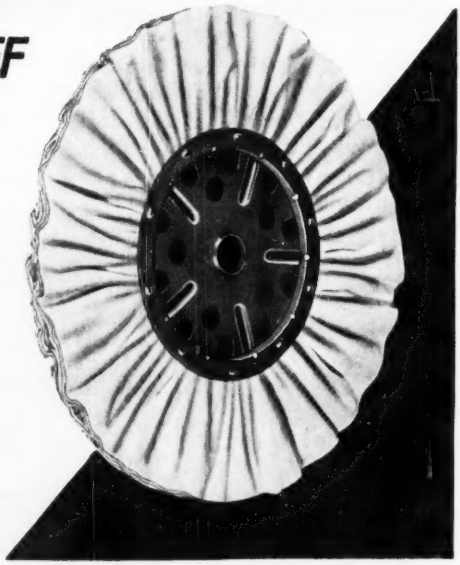
BIAS BUFF

For Higher Speeds on Automatic Machines

Strong constant air currents flow through the extra number of apertures on this new buff, insuring against burning, and also adding longer life to the buff.

The fixed immovable center is not changed—saving time and work.

Give this NEW Buff a trial on your next job.

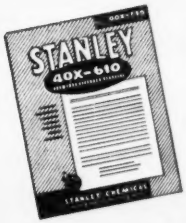


The BIAS Buff & Wheel Co.
Division of Riegel Textile Corp.
3464-66 Hudson Boulevard
Jersey City 7, N. J.

Weatherproofs in ONE OPERATION

Stanley 40X-610 one-package WASH-PRIMER

Now steel or iron parts can keep the weather at bay throughout a year of outdoor storage without topcoating. Reason: Stanley 40X-610. This one-package, one-operation wash primer for spraying, brushing, or dipping forms a weather-tight skin that lasts. Its resistance to corrosion and rust creep is excellent. And Stanley 40X-610 may be used with most topcoats. Find out more about this low-cost, easy-to-apply outdoor protection . . . write today for the new bulletin on Stanley 40X-610 to: Stanley Chemical Company, 31 Berlin Street, East Berlin, Connecticut.



LACQUERS

JAPANS

SYNTHETICS

ENAMELS

STANLEY CHEMICAL

of Cleveland, Ohio. Said to be extremely easy to operate, the tilting mechanism is controlled by a reversing drum-type switch. The unit is designed for manual starting, with automatic shut-off at adjustable high and low limits. Use of the power tilt with Globe direct-drive barrels eliminates the conventional handwheel. This, the manufacturer states, saves 3 sq. ft. of floor space per machine.

The Power Tilt device is available optionally with Globe's direct-drive barrels at rated capacities of up to 3000 pounds. A 1/3 h.p. gear motor with a right angle shaft powers the No. 2 and 3 sizes, while a ¾ h.p. gear motor is used on the two larger tumbling barrels.

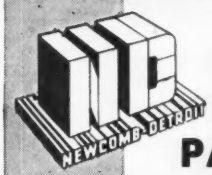
Shaft speed on both tilting units is 48 r.p.m., providing a limit-to-limit tilt speed (loaded) of 30 seconds for the ¾ h p. unit, and about 20 seconds for the lighter barrels.

The tilt mechanism is mounted on a welded steel frame and bolted to the barrel pedestal. The gear motor shaft drives through a flexible coupling to a worm gear which engages the tilting gear segment. The shaft is mounted in bronze bushings with thrust washers. Means of shaft lubrication are provided with the use of a pressure grease fitting.

Automatic control of the tilting mechanism is achieved by means of a pivot-mounted stop rod suspended from the tilting segment. The rod extends through the reversing drum control with adjustable limit stops. As the mechanism moves the barrel upwards, the rod slides down through the control to the stop, shutting off the gear motor. The machine is stopped simi-

NEWCOMB-DETROIT

PIONEERS IN ENGINEERING, MANUFACTURE AND INSTALLATION OF



INDUSTRIAL OVENS
SPRAY BOOTHS
PARTS WASHERS
DUST COLLECTORS
AIR SYSTEMS

ESTABLISHED 1912
DETROIT DIVISION – GRAND RAPIDS DIVISION –
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THICK OR THIN

you can check it with . . .

POCKET HANDI • GAGE

A MAGNETIC THICKNESS TESTER FOR ELECTRODEPOSITED HOT DIPPED OR PAINTED COATINGS ON STEEL

Tests thicknesses from 0.0001 to 0.015 inch. Each individual gage is separately calibrated to National Bureau of Standards thickness plates, resulting in an accuracy to 10% for thicknesses over 0.0002 inch. As simple to use as an automobile tire gage, the Pocket Handi-Gage may be used on the production line or in the laboratory. It's perfect for use as a "Go, No-Go" thickness gage.

No Bigger Than A Fountain Pen, But What A Job It Does!

Tests brass, cadmium, copper, lead, nickel, silver, tin, zinc, lead-tin and zinc-tin alloys, hot-dipped tin and zinc, paint, plastic laminations, enamel and lacquer on steel and other magnetic metals. Gives results in SECONDS. Especially adapted for hard-to-reach areas. Comes in a handy pocket-sized case complete with magnets for various thickness ranges.

Platers Research CORPORATION

59 E. 4TH STREET
NEW YORK 3, N. Y.

larly in its downward movement by the opposite limit stop. Further information about the power tilt device may be obtained from The Globe Stamping Division, Hupp Corporation, 1250 West 76th Street, Cleveland 2, Ohio, or *by circling No. 17 on Reader Service Card inside back cover.*

Power-Driven Brushes

A full line of power-driven brushes offering a wide range never before available to the home hobbyist, farmer or small shopman, to meet the stepped-up demand for professional type home workshop equipment and accessories, has been announced by the power-driven brush division of the Pittsburgh Plate Glass Company, Baltimore, Md. The new brush line offered by the company is designed to be used on portable power tools such as electric drills, sander-polishers, drill presses, bench grinders, polishing jacks, flexible shafts and air or pneumatic tools.

The power-driven brushes are designed to remove rust, scale, carbon, burrs, and can be used for polishing, buffing, cleaning and roughening. Coarse brushes are provided for cleaning rusty objects or preparing for painting such things as outdoor furniture, bicycles, garden tools, metal cabinets, iron railings, steel sash, automobiles, gutters and downspouts, farm equipment; for the removal of loose chalky scaling paints, cleaning of hard-to-remove deposits such as baked-on carbon and food from procelain stove parts; for roughening rub-

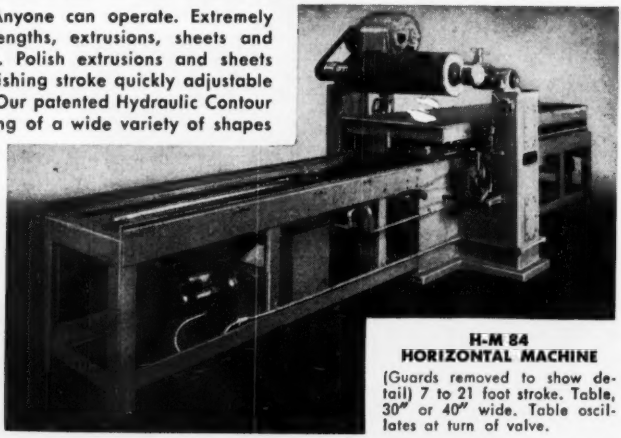
Speed Up Your Finishing Operations with CENTRAL POLISHING MACHINES

Hydraulically operated. Anyone can operate. Extremely versatile. Handle long lengths, extrusions, sheets and many odd-shaped pieces. Polish extrusions and sheets their ENTIRE LENGTH. Polishing stroke quickly adjustable 2 inches to full capacity. Our patented Hydraulic Contour Device permits the finishing of a wide variety of shapes and contours.

- Polishes extrusions and sheets complete, end to end.
- Simple operation. Women run them.
- Adjustable stroke 2" to full capacity.

Machines, 7 to 21 foot stroke.

FULL INFORMATION ON REQUEST.

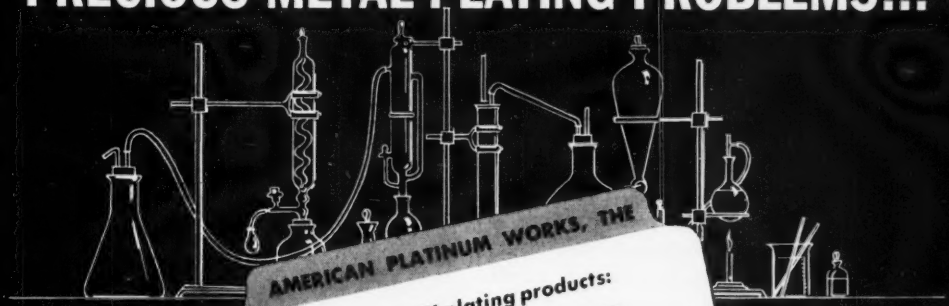


H-M 84 HORIZONTAL MACHINE
(Guards removed to show detail) 7 to 21 foot stroke. Table, 30" or 40" wide. Table oscillates at turn of valve.

CENTRAL MACHINE WORKS

72 COMMERCIAL ST. • WORCESTER, MASS.

TO HELP SOLVE YOUR PRECIOUS METAL PLATING PROBLEMS...



AMERICAN PLATINUM WORKS, THE

A partial list of APW plating products:

A. A. SILVER ANODES
POTASSIUM SILVER CYANIDE
SILVER CYANIDE
C. P. SILVER NITRATE

Meets A.C.S. Specifications

Our Research Staff develop the anodes and the precious metal salts plating materials you need for best results. The valuable experience and facilities of our Electro-chemical Research Division are at your service, to help minimize your costs or improve efficiency in your plating procedures.

We think of both as equally important services and APW welcomes requests for either one or for both. No charge for the technical service—we just want to be sure you use it—*freely*.

WRITE FOR INFORMATION AND CURRENT QUOTATIONS.

APW

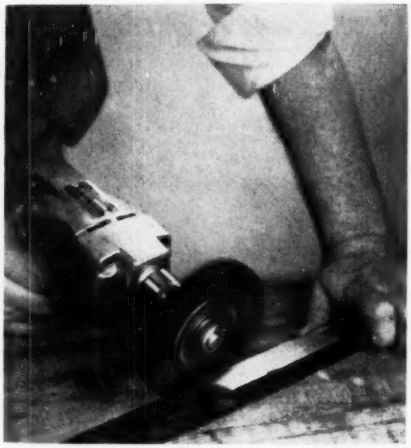
THE AMERICAN PLATINUM WORKS

231 NEW JERSEY RAILROAD AVENUE • NEWARK 5, NEW JERSEY

ber, wood, metal prior to patching. Included is a cup brush for hard-to-reach places.

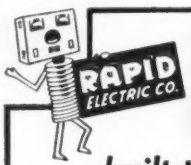
The fine brushes are for similar jobs where a finer finish is desired. They are also used for removing tarnish from and polishing metal objects, producing a satin finish effect on metal craft work, wood or plastic objects, and for breaking the gloss on paint between coats.

Included in the assortment of brushes for the do-it-yourself man is an "all purpose" brush, which as its name denotes, can be adjusted to fit any shaft likely to be found in equipment that utilizes such tools; can be spun at any speed such equipment attains and can be used on any surface to perform functions now performed by hand wire scratch brushes — plus many other uses.



Power-Driven Brush mounted on portable tool.

For further data circle No. 18 on Reader Service Card inside back cover.



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. . . built to your Specifications.

INDUSTRIAL AND LABORATORY USE.

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- ANODIZING
- PERIODIC REVERSERS
- CONTROLS

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Plastic Spray Masks, Stencils, and Holding Fixtures

A plastic putty for making spray masks, stencils, and cementing fix-

McKeon's "Liquid Sulphur"

Most economical, most satisfactory method of

STRIPPING COPPER.

Brochure on request.

Sulphur Products Co., Inc.
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29 Years of Experience In the Sale and Service of

CHEMICALS TO CLEAN and PREPARE METAL for PAINTING

Surphos — CLEANER and PRODUCER OF PHOSPHATE COATINGS.

Sol-Klean — PHOSPHORIC ACID RUST REMOVER AND ETCHER.

Industro — ALKALI CLEANERS, STRIPPERS and AIR WASH COMPOUNDS.

Industrosolv — SOLVENT EMULSIONS FOR SPRAY WASHING MACHINES.

SOL-KLEAN prepares steel and aluminum for painting, removing rust, oxide and oil. It etches the metal and gives a thin phosphate coating. One volume of Sol-Klean, diluted with 3 volumes of water, usually brushed on the metal at room temperature. It penetrates oil and dissolves rust. Sol-Klean is removed together with the dissolved oil and rust by wiping with rags or flushing with water. Metal may also be cleaned and treated by immersion in hot Sol-Klean and rinsing in water. Sol-Klean is non-inflammable and evolves no toxic or corrosive fumes.

SURPHOS cleans and produces a phosphate coating on sheet steel, machined and cast iron. It anchors the paint finish and increases its humidity and salt spray resistance. Use hot (one ounce per gallon solution) in Power Wetting Machine or dip tank. Acid proof equipment not needed.

NOTE:

Consult Us On Your Government Specification Requirements

INDUSTRIAL CHEMICAL PRODUCTS COMPANY

3778 BELLVUE AVENUE DETROIT 7, MICHIGAN

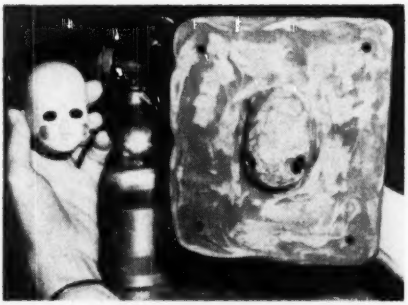
Representatives In Principal Cities

IN CANADA, MADE AND SOLD BY BOYLE CHEMICALS LTD. LONGBRANCH, ONT.

tures for toys, signs, fire alarm boxes, and general industrial equipment has just been developed by the Chemical Development Corporation, of Danvers, Massachusetts. It is used to protect or mask off metal, plastic and other surfaces during paint-spraying, cementing, flocking, and similar operations. It is also being used for making jigs and fixtures for holding parts during cementing and machining, for low pressure forming dies, for making molds for a large number of models, and for other uses.

Called "CD Spray Mask A," it is supplied as a putty that will harden to an extremely strong, tough and rigid solid 1-2 hours after the addition of a catalyst or hardening agent. No heat or pressure is required.

CD Spray Mask A makes a precision reproduction of surfaces without distortion or shrinkage. It is easily applied to the desired surface or model with a putty knife and will stick to a vertical surface without sagging. A thick or thin coat can therefore be produced at one time. It is not necessary to cast a thick block of material



Spray mask for doll head.

MPC Designers and Builders of D'OILERS
VAPOR and SOLVENT DEGREASERS
Automatic, semi-automatic, manual and laboratory models.
PRE-PLATERS or DRIERS
CHLORINATED SOLVENT STILLS
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for prompt shipment
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Performance - Proved
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Lacquers • Enamels • Dopes • Thinners
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Specialized Production Finishes
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RANDOLPH
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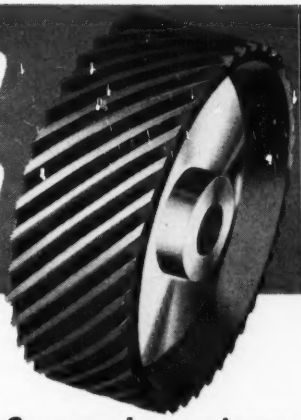
CUTS COSTS like Magic!



Chicago Rubber Company's amazing new R54 contact wheel cuts better—faster—longer and will substantially reduce your grinding and polishing costs 3 ways.

This precision machined and accurately balanced wheel is easily and quickly knocked down and reassembled for tire replacement or change.

- Replace only the rubber tire when necessary instead of the entire wheel.
- Choose from a complete assortment of tire treads for different grinding operations, still using the same wheel.
- And as usual Chicago Rubber Company's R54 contact wheel allows you to get the most wear from your abrasive belt—more than you ever got before.

There is a replaceable rubber tire with proper tread for every grinding requirement and in a wide variety of durometer ratings. Write for descriptive literature.

"IT'S THE WHEEL THAT DOES THE WORK"

CHICAGO RUBBER COMPANY, INC.

Main Office & Factory
2620 N. Clybourn Ave. Chicago
Makers of the COSMOWHEEL

around the model and then machine it down to the desired size. The proper thickness for reinforcing or for other purposes can be applied at the start and the final product will correspond exactly to that size and shape. Parts can be built up later if desired by simply adding additional material. When hardened, it is simply lifted off the model and then carved or machined with a portable, dentist type drill or sawed, drilled, threaded, and sanded with regular metalworking equipment.

CD Spray Mask A when hardened is unaffected by acetone, and most solvents, oils, and water. It has a high impact, tensile, and compressive strength. It is light weight and has good adhesion to itself and many other surfaces. It is non-acid and non-corrosive.

A special release agent or material to prevent the CD Spray Mask A from adhering to the model is also supplied with every order.

For further data circle No. 19 on Reader Service Card inside back cover.

Rust Preventive Applied with Push Button Dispenser

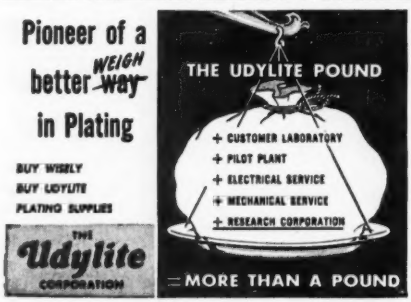
A time-saving method of rust prevention, utilizing 12-ounce pressurized, push-button cans, has been announced by E. F. Houghton & Co., manufacturer of Cosmoline and Rust Veto.

Containing "Rust Veto Spray," these handy dispensers provide a quick, clean, and effective way to apply an even, transparent protective film to metal parts. It is especially handy for protecting small items such as tools, dies, gages, precision parts, hardware, and items being stored.

Useful in industrial shops and tool rooms, Rust Veto Spray also has many advantages for home users. Simply by pushing the button on top of the can and spraying the parts to be treated, positive anti-rust protection is assured.

The thin, transparent film protects metal parts for long periods and need not be removed when the item is ready for use.

For further data circle No. 20 on Reader Service Card inside back cover.



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ACID-ALKALI-PROOF CONSTRUCTION
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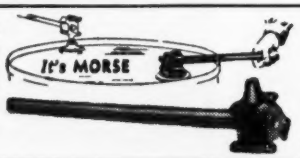
Send NOW for this FIT-ALL
DRUM PLUG WRENCH
Instantly loosens, tightens 95% all plugs or bungs in steel drums. Has 16" extra-strong steel tubing handle. Wgt. only 2 lbs. Order 1 or more today!



THOUSANDS IN USE saving time, labor, accidents!
SATISFACTION GUARANTEED.... $3.30
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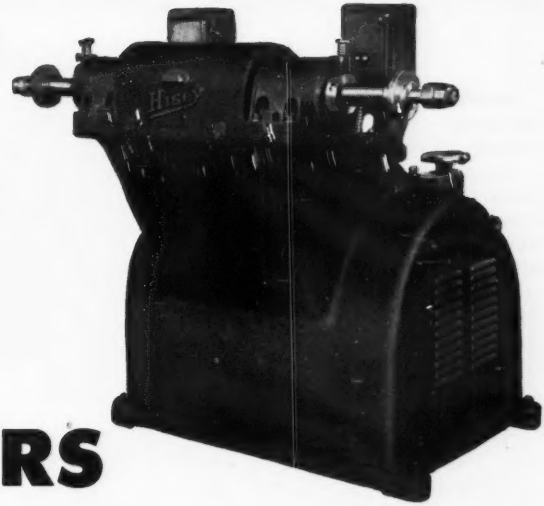


BUFFERS

63 different types and sizes

Hisey-has-it . . . for your particular operation . . . polishing, buffing or coloring.

DUST COLLECTORS
This bag-type dust collector illustrated above is made in 3 popular sizes. Cyclone-type also available in 3 sizes.

These buffers available from ¼ to 30 H.P. capacity...direct drive (buffing wheels mounted directly on motor spindle) and V-belt drives for any practical speed. Hisey-has-it ...narrow types to fit limited, valuable space—wide types for long or cumbersome work. So that operators do not interfere with each other in changing buffer wheels, machines can be supplied with individual motors for spindle on each end.

Ask for Catalog 72 PM

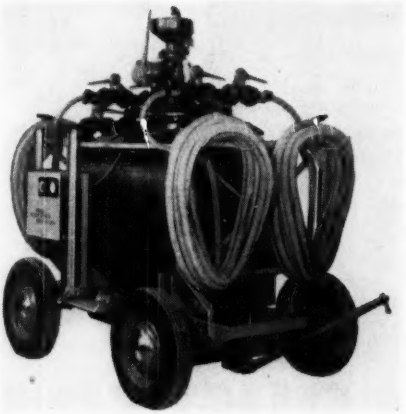
Hisey THE HISEY-WOLF MACHINE CO.
CINCINNATI 8, OHIO
Division of The Cincinnati Electrical Tool Co.

Acid Buggy

Announced by Automotive Rubber Company, Inc., Detroit, is an acid wagon called "Acid Buggy."

Completely ARco engineered and designed, the Acid Buggy can be produced in a variety of capacities. The model #XB-425 will hold more than 400 gallons. ARco wagons of other sizes (narrow enough to clear through narrow work lanes) can be supplied.

The ARco wagon has all Saunders type rubber-lined valves. It is completely equipped with tow bar, axles, wheels, 6.00 x 16 tires, four 50-foot lengths of acid hose with nozzles, overflow funnel, gage glass and fittings, pneumatic controls, air filter, air gage, and gage board, and 75 feet of ½-inch diameter hose. The 1,500 pound tank, rubber-lined inside and out, is mounted on a frame which (combined with accessories) weighs 1,300 pounds.



Acid Buggy

The Acid Buggy is built throughout in accordance with ASME Code #150 P. S. I.

For Platers, Silversmiths, Jewelry Mfgrs., Makers of Watches, Clocks and Electronics and other metal finishers.

Supplied in straight or crimped brass, steel, nickel silver or stainless steel wire in sizes .0025 to .006 and in bristle, fibre or Nylon. Special sizes and shapes to order.

catalog and price list.
Write (Dep't. P) on your letterhead for

DIXON & RIPPEL, INC. KINGSTON, N. Y.
ESTABLISHED 1856

Distributors in Principal Cities

FILTER
50-1500 GAL/HR

*Reg. App. for

ANY ELECTRO-PLATING SOLUTION
NO PITTING
NO ROUGH DEPOSITS

Model ASI 600
Cap. 850 gal/hr

• Filters all solutions from pH 0 to pH 14. • No loss of precious solutions. • Filter Assemblies—H.T. Lucite, SS 316, Rubber-Lined, Haveg or Sethrin*. • Filter Tubes—Cotton, Dynel, Porous Stone, or Porous Carbon. • Pumps—SS 316, Hastelloy, Plastic; Centrifugal or Self-Priming.

Sethco MFG. CO.

70-72 Willoughby St., Brooklyn 1, N. Y.

cut cleaning costs RIGHT DOWN THE LINE!

METALWASH VAPOR DEGREASERS are 4-Ways BETTER!

UNOBSTRUCTED TANK WALLS. The condensing coil and trough are recessed into a back compartment providing *superior vapor control, more efficient solvent reclamation,* and an *unobstructed working area.*

WATER SEPARATOR and PUMP CHAMBER, fabricated of stainless steel, are *unitized* for easy removal in minutes.

SIMPLIFIED MAINTENANCE. Service connections, clean-out openings, and controls are located at one end of machine.

DEMAND-TYPE WATER CONTROL. Out of Metalwash research has come the improved technique of water temperature regulation for greater control and water conservation.

All types of vapor degreasers, automatic or hand operated, are available in standard and special sizes.

WHAT YOU SHOULD KNOW ABOUT *Vapor Degreasing*

METALWASH has prepared an authoritative, illustrated booklet containing a description of the theory and operation of vapor degreasers plus diagrams and cutaway photographs of the three basic types of degreasers. **Write today for your Free copy.**

METALWASH®

WASHING PICKLING DRYING PHOSPHATIZING DEGREASING

METALWASH MACHINERY CORPORATION
915 North Avenue, Elizabeth 4, N. J.
In Canada, Canefco, Ltd., Toronto, Ontario

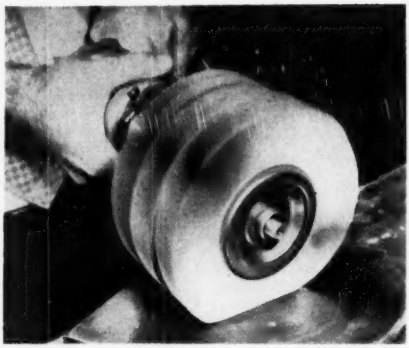
For descriptive literature and details, write to Automotive Rubber Company, Inc., 12550 Beech Road at P. M. R. R., Detroit 28, Michigan, or *circle No. 21 on Reader Service Card inside back cover.*

Multi-Mount for Flexible Polishing Wheel

Available now in multiple wheel units is the Grind-O-Flex flexible polishing wheel. As the attached photo shows, three of these wheels (or more) may be mounted together to form a single broad wheel which acts on a much larger area than one wheel alone, yet loses none of the flexing action found in the individual wheel.

Multiple units are being introduced by Merit Products, 4023 Irving Place, Culver City, California, makers of Grind-O-Flex and Sand-O-Flex abrasive wheels. Any number of these units may be assembled together as required in increments of 1-inch for fixed installations. When attached to a flexible shaft or portable drill three to five wheels are recommended for best results. The light weight of the wheels (7 oz. approx.) makes such a grouping practical.

Grind-O-Flex wheels are highly use-

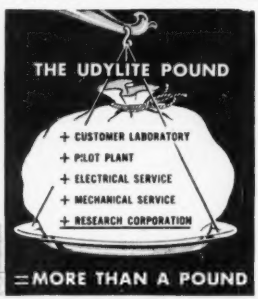


Multi-Mount for Flexible Polishing Wheel

Where increased profit and better results are weighing in the balance

BUY WISELY
BUY UDYLITE
PLATING SUPPLIES

THE Udylite CORPORATION



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from wash thinners, spoiled lacquers, degreasing machine sludge, etc.
Solvents recovered by the Lofgren Process.
Each customer's shipment, whether one drum or a carload, receives proper and separate treatment. *Write to:*

Solvents Recovery Service, Inc.
1025 Broad St. Newark 2, New Jersey
Hammond Solvents Recovery Service
241 Brunswick Rd. Hammond, Ind.

For a real good polishing job use

Keystone TURKISH Emery

FRESH SUPPLY AVAILABLE

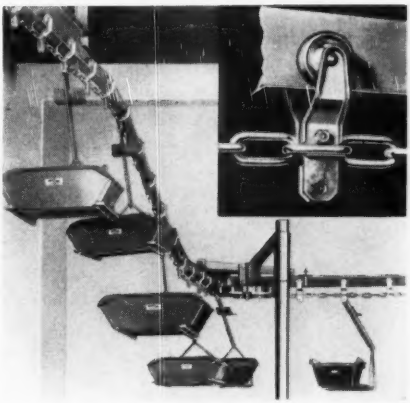
KEYSTONE EMERY MILLS *Write for Sample* 4316 Paul St., Phila., Pa.

ful in finishing metals, deburring, flash removal, and removing scratches, mars, tool marks, and so on. Because of its ability to flex, it follows irregular contours and provides a smooth, uniform abrasive action without digging into the material.

For further data circle No. 22 on Reader Service Card inside back cover.

Trol-E-Veyor

The Cincinnati Automatic Conveyor Co., 3799 Madison Road, Cincinnati 9, Ohio, has engineered and developed a junior conveyor system stated to be economical of installation, simple and speedy to erect, and readily dismantled and rearranged. The unusual assembly (bolted, with jig-drilled dowel-pin holes) affords remarkable flexibility and makes future layout changes with utmost simplicity.



Trol-E-Veyor

Trolleys, normally spaced at 8, 12, 16, or 20 inch centers, may be modified by the removal of a single bolt,

For Dust Free Finishes!
BOND TACK CLOTH

IN ROLLS
Cut off any size piece to use as needed.

IN BULK
Cut and folded. Ready to use.

STAYS SOFT AND TACKY — A SPECK-FREE FINISH EVERY TIME

Now Available in Rolls or Cut Bulk—White or Gold In Three Different Types of Cloth

Get your Tack Cloth packed just the way it's easiest for you to use . . . either in 150 yard rolls of 36" wide cloth or in handy cartons . . . 100 or more Tack Cloths to the carton.
No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up!
The Cut Bulk size is 18" x 36" . . . folded to 4½" x 18" for ease of handling. ALL BOND TACK CLOTH is *Spontaneous Combustion Proof, Lint-Free* and *Wax-Free*. Gives a sparkling speck-free Finish *every time*. Clean and sanitary. No waste.

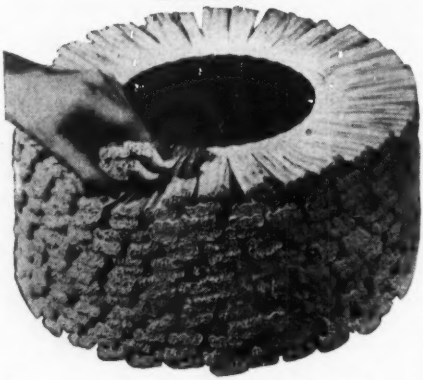
TRY THEM and COMPARE RESULTS. Samples Gladly Sent Upon Request.

BOND CHEMICAL PRODUCTS CO.
"The Tacky Wiper Specialists"
2639 N. CLYBOURN AVE. CHICAGO 14, ILLINOIS

ALSO INDIVIDUALLY PACKED IN GLASSINE ENVELOPES —144 to the Carton

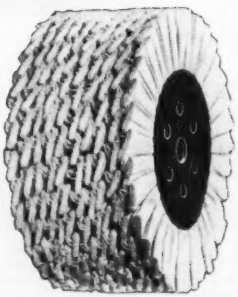
A WARRANTY OF SATISFACTION IN EVERY CARTON

Whatever Your Cutting Problem...
CHURCHILL FINGER-BUFFS* *are BEST*



TYPE 20-RD SISAL BUFF

TYPE 302 CLOTH BUFF



- Churchill Finger-Buffs* are competitively priced. Produced in all sizes from 6" to 18" diameters. For complete information write your problem.

*Churchill Finger-Buff, T.M. Reg. U.S. Pat. Off.

REPRESENTATIVES IN PRINCIPAL CITIES

Geo. R. Churchill Co., INC.

FREE Catalog

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Please send me FREE Catalog and complete information. My special buffing problem is .....

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City ..... Zone ..... State .....

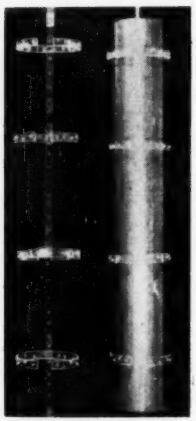
without disturbing the turn or drive sprocket. Forty pound capacity trolleys with double-bearing race wheels are available. Heavier loads may be accommodated by installation of load bars between trolleys.

The chain is case hardened for wear resistance and bright zinc plated for corrosion resistance. In operation, chain pull is limited to 600 pounds to provide long chain life and a more-than-ample safety factor. Various ranges of speed are available, from 0.8 to 60 f.p.m.

For further data circle No. 23 on Reader Service Card inside back cover.

Anode Cage

The Parker Anode Cage is manufactured by the William Parker Co., P.O. Box 209, Worcester, Mass., of a plastic material which is uneffected by temperatures under 200 deg. F. It is stable in any hot bright nickel solution and may be used repeatedly for an indefinite period.



Anode Cage

Designed for use between the anode bag and the anode, the cage assists in making possible an even flow of current with less resistance, resulting in a faster, brighter, smoother plate. In many instances a higher current density can be used without burning.

The cage consists of a varying number of arms, (depending upon the length of the anode) attached to a spline. The arms and spline are drilled at suitable distances to prevent a

shading effect upon the anode while it is dissolving. The arms encircle the anode with the exception of a one inch opening opposite the spline. Six nibs, or separators, on every other arm, prevent the cage and anode bag from sticking to the sides of the anode. The top of the cage contains a nylon thread for tying at the base of the anode hook to prevent the cage from slipping downward.

The Parker Anode Cage, by preventing the bag from sticking to the anode, makes possible a constant, adequate, fresh supply of solution and speeds the passage of carbon and other insoluble material to the bottom of the bag.

For further data circle No. 24 on Reader Service Card inside back cover.

Zinc and Rubber Latex Corrosion Protection

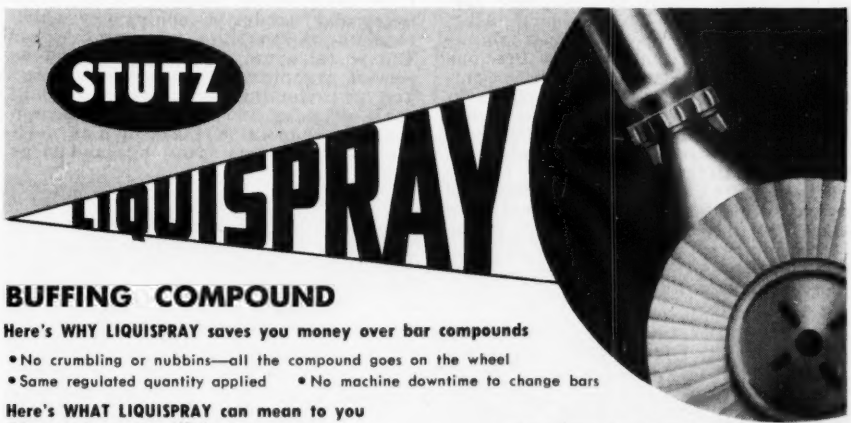
To protect iron and steel from all types of weathering, there has been developed a material made of pure zinc and rubber latex which can be brushed or sprayed on iron and steel bars as a protective.

Unlike other methods of applying zinc coatings as anti-corrosives, a procedure known as the Cowanite Process, makes possible the application of anti-corrosion coatings irrespective of size and site, to protect iron and steel equipment against corrosion.

Although other processes require clean surfaces which must be achieved by the process of chemical action or shot-blasting, Cowanite can be applied over adherent rust or mill scale.

Applied by either brushing or spraying, Cowanite is touch dry within 14 minutes; hard dry within 40 minutes.

A full description of the Cowanite process appeared in a recent issue of Rubber Developments, available from the Natural Rubber Bureau, 1631 K Street, N. W., Washington 6, D. C.



BUFFING COMPOUND

Here's WHY LIQUISPRAY saves you money over bar compounds

- No crumbling or nubbins—all the compound goes on the wheel
- Same regulated quantity applied
- No machine downtime to change bars

Here's WHAT LIQUISPRAY can mean to you

- Increased operator efficiency
- More uniform finish and fewer rejects
- Compound costs cut up to 50%
- Tremendous increase in buff life

Choice of heavy cut, cut and color, or color in either tripoli or stainless steel grades.

Here's WHY you should use LIQUISPRAY

- Abrasives will not settle
- No fire hazard
- No clogging of idle guns
- All the compound sticks to the wheel
- Leaves work free of dirt and easy to clean prior to plating

LIQUISPRAY is the best... We invite your inquiry specifying your particular requirements. Samples available.

GEO. A. STUTZ MFG. CO.

1647 Carroll Avenue, Chicago 12, Ill.

NEWS of the Industry

NEW PLANTS

Completion of a new building that will provide an additional 12,000 square feet of manufacturing space for Sel-Rex Selenium Rectifiers, has been announced by Morris M. Messing, president of **BART-MESSING CORPORATION**, of Belleville, New Jersey.

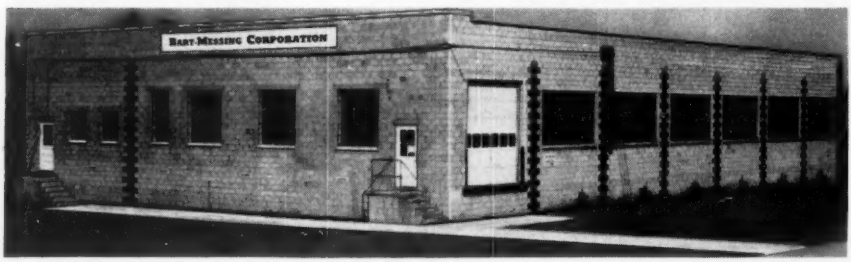
The new building is the third structure erected by Bart-Messing Corporation and associated companies in the past 18 months, on a six and one-half acre tract on Manchester Place, Newark, New Jersey. With the new Bart-Messing plant, the associated companies, Bart Manufacturing Corporation, Sel-Rex Precious Metals, Inc., and Bart Laboratories Company, Inc., now operate seven plants in the Belleville-Newark area for the manufacture of plating equipment and production of specialized types of industrial precision plating.

The new one story structure, serviced by main lines of two major railroads, is ideally planned for expanded production. Manufacturing facilities are set up on an assembly line basis, and include the most modern equipment.

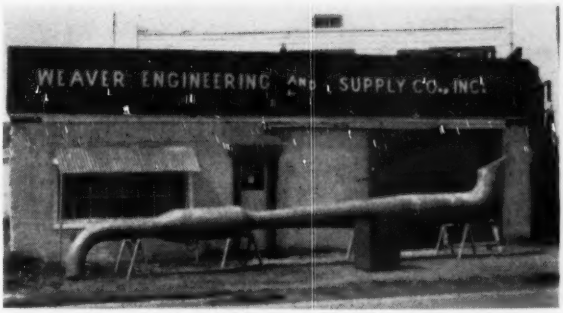
The main offices of Bart-Messing Corporation, which handles a complete line of plating supplies and equipment, will be retained at the Belleville plant.

The **MW PROTECTIVE COATINGS DIVISION** of **METALWELD, INC.**, Scotts Lane & Abbottsford Ave., Philadelphia 29, Pa., has completed the installation of one large sandblast chamber in the new Scotts Lane Plant. Besides three large blast cleaning rooms, there is special sandblast equipment which consists of tumbling barrels, cabinets and portable units for field work. This service organization specializes in sand and grit blasting to remove rust, mill scale, old paint and heavy corrosion from all types of metal surfaces such as weldments, pipe, press stampings and large tanks.

WEAVER ENGINEERING AND SUPPLY COMPANY, INC., 718 West Main Street, Grand Prairie, Texas (Dallas), in



New plant of Bart-Messing Corporation.



Office and warehouse of Weaver Engineering and Supply Co.

a move to expand with industry in the Southwest, has announced the purchase of an office and warehouse of 3,500 square-foot area at the above address.

As distributors for Enthone, Inc., R. O. Hull and Company, Formax, and Munray Products Company, Weaver Engineering will maintain complete stocks of the products of these organizations to better serve the metal finishing industry in the Southwest.

In addition to distributing and warehousing these products, Weaver Engineering and Supply Co., Inc., will also manufacture resin-bonded Fibreglas tanks, duct work and hoods, will line tanks with Munray Cycloflex plastic lining, and will design, manufacture and coat plating racks with Munray Plastisol Rack Coating.

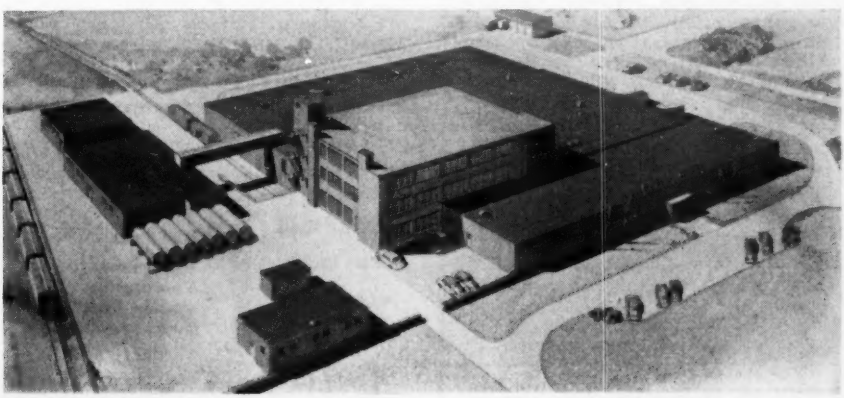
The headquarters of the **HANNA PAINT MFG. COMPANY** have been moved to a million dollar factory which has just been completed at 1313 Windsor Avenue, Columbus, Ohio.

This is the most modern paint plant in the United States and is equipped with up-to-date facilities and machinery for efficient paint manufacturing.

There are six buildings in the group. The main building comprises office section, executive offices, laboratory section, three-floor manufacturing area, large warehouse for storage of materials and huge shipping and receiving department for finished products. The five other buildings house the equipment for varnish, lacquers and industrial finishes.

Hanna Paint also has plants in Pittsburgh, Birmingham and Dallas with branches and distribution centers in Charlotte, N. C., Jackson, Miss., Orlando, Fla., Louisville, Ky., Indianapolis, Ind., Atlanta, Ga., Grand Rapids, Mich., San Antonio, Texas, and Albuquerque, N. M.

INTERCHEMICAL CORPORATION, New York, has announced new manufacturing facilities for its Finishes and In-



Main plant and office of Hanna Paint Mfg. Co., Columbus, Ohio.

Expanded West Coast plant of Interchemical Corporation.

Tag Divisions in Los Angeles.

The additions comprise a new drum cleaning building of approximately 1,000 square feet, a nitrocellulose vault of approximately 770 square feet, and a two story steel and concrete completely fireproof building with overall floor space of 10,000 square feet.

The two-story building will house ball and pebble mills and 1,000 gallon mixing tanks for manufacturing industrial finishes and In-Tag inks. The building contains a modern ventilation and dust collector system and a water cooling tower to provide cold water for the mills. Outside, along the railroad siding are tanks providing 60,000 gallons of solvent storage. Solvents are pumped through meters directly into the mills.

COMPANIES

HANSON - VAN WINKLE - MUNNING COMPANY of Matawan and **J. C. MILLER COMPANY** of Grand Rapids, Mich., have announced jointly that they have entered into a formal agreement. The contract provides for the consolidation of the organizations and operations of both companies by the transfer of the physical assets, good will and organization of the J. C. Miller Company to Hanson-Van Winkle-Munning Company.

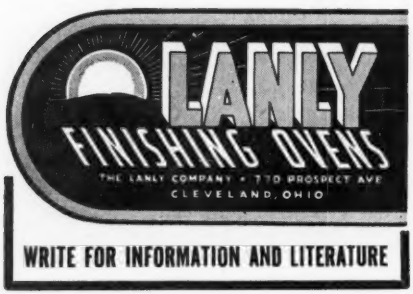
J. C. Miller, founded in 1920, is a prominent manufacturer of buffing compositions for the metal finishing industry. It is the largest producer of tripoli compositions in this country. H-VW-M, founded in 1820, is one of the nation's leading manufacturers of electroplating and polishing equipment and supplies.

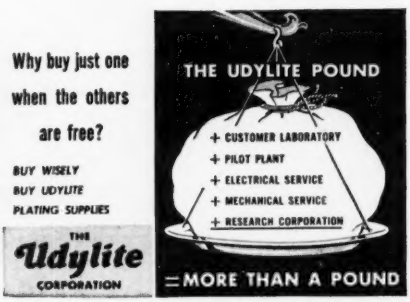
G. H. Walgren, president of J. C. Miller, will continue to direct operations of the Miller organization. Operations will continue under the same general management and policy as heretofore.

Arrangements have been made to include Mr. Walgren and J. C. Miller, chairman of the board of the Miller company, on the board of H-VW-M.

WAGNER BROTHERS, INC., has named **MOEHLENPAH ENGINEERING, INC.**, 1315 Vandeventer Ave., St. Louis 10, Missouri (main office) as Midwestern distributor for the Wagner Brothers' line of electroplating equipment and supplies, it has been announced by J. D. Tebben, vice president, Wagner Brothers, Inc.

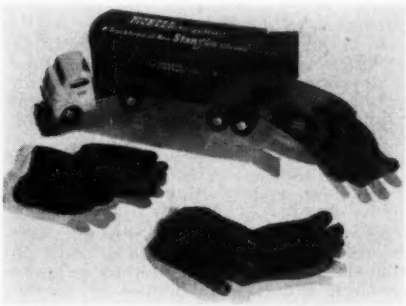
Moehlenpah's eight field sales engineers will cover a territory consisting of Southern Illinois, Missouri, Iowa, Eastern Kansas and Eastern Nebraska in promoting the sales of Wagner Brothers' products.





Moehlenpah is also represented by sales offices at 4450 Main St., Kansas City 11, Missouri, and at 1308 33rd St., Des Moines, Iowa.

J. B. Bowman, general sales manager of **THE PIONEER RUBBER COMPANY**, Willard, Ohio, recently wired



Sample shipment of Pioneer gloves.

major industrial glove distributors to tell them that a "truck load" of Pioneer's new Stanflex gloves would reach them shortly. Before the distributors could find out who placed the order, they received a "toy truck" containing sample pairs of Pioneer's knit wrist, band top and gauntlet style Stanflex plastic-coated work gloves. A pop-up announcement folder and new catalog sheet were also included in the "shipment." A general mailing followed the "truck" delivery.

These distributors discovered that the new Pioneer Stanflex gloves are as revolutionary in construction as the manner in which they arrived. They have an entirely new, two-piece, single-seam construction giving a 47 square inch, seamfree work surface . . . to prevent hand chafing and abrasion, tears and snags, and with high resistance to acids, caustics and common industrial chemicals. Mr. Bowman reported excellent results from the announcement and follow-up.

ELLIS ALLEN CO. of Woburn, Mass., manufacturer of rubber-covered rolls and molded rubber goods, has acquired the **GLOVER COATING CO., INC.**, of Malden, Mass. Manson Glover will continue as president of the consolidated company and John A. Chew, president of

TUMBLING
BURNISHING
OR
DEBURRING

For Lustrous Finishes and/or Precision Deburring MOCO Barrel Compounds are important. These MOCO compounds—especially developed for tumbling will save you money—time—spoilage.

MOCO Burnishing Compound #1— a general purpose type.

MOCO Burnishing Compound #6— for magnesium and aluminum bulky pieces.

MOCO Burnishing Compound #10— versatile — efficient — imparts a high lustre to all metals burnished by any media in any type barrel.

MOCO Grinding Compound #20— recommended for grinding or cutting down.

MOCO Abrasive Compound #30— for self-tumbling or part-against-part grinding operations on steel.

MOCO Abrasive Compound #36— deburrs rapidly on copper, zinc, aluminum, etc., and light steel punchings —imparts high lustre.

MOCO Descaling Compound #40— fast acting acid compound for descaling.

Write for complete information on all or any one of these and other MOCO Burnishing Barrel Compounds.

WRITE FOR YOUR FREE COPY

THE MOSHER CO.

15 EXCHANGE ST.

CHICOPEE • MASSACHUSETTS

Ellis Allen, has been named treasurer of Glover Coating Co.

Administrative offices of the company are at 5 Conn St., Woburn. Plant operations will continue at Malden, Mass., directed by William W. Stasiowski.

LASALCO, INCORPORATED, St. Louis, Missouri, has announced the appointment of the **PROCESS ENGINEERING COMPANY,** 4918 Jarvis Avenue, Skokie, Illinois, as distributor in the Chicago area for Lasalco barrel platers, full and semi-automatic plating conveyors, burnishing barrels, driers, and other items manufactured by Lasalco.

Process Engineering has been actively serving through thoroughly experienced representatives, the electroplating needs of the graphic arts industries in this territory. The company has done considerable work in both electroforming and other applications of the nickel sulfamate solution and various fluoborate baths.

A new and economical method for surface preparation of glass fiber reinforced plastic automobile bodies has been developed by **DeVILBISS COMPANY** technicians. The new method, which substantially reduces surface preparation time, opens the way to painting the bodies in the conventional manner, using dark, medium or light colors.

DeVilbiss, long a leader in the development and manufacture of spray painting equipment, worked out the new technique, using a Kaiser Darrin, manufactured by a Toledo, Ohio, neighbor, Willys Motors, Inc.

In addition to development of an economical method for surface preparation, DeVilbiss technicians were interested in obtaining a smooth surface on the body so dark colors, heretofore not used, could be applied.

The Darrin body, which was used for the project, was received by DeVilbiss before any surface preparations had been made. When completed the body was painted a jet black.

In working on the body, DeVilbiss technicians used new materials and newly developed spray equipment which consisted principally of a special spray gun equipped with a two-stage external mix cap. The gun is equipped with high fidelity controls to govern a complete and thorough mixture of catalyst and resins.

After painting the body, it was returned to Willys for assembly to a chassis. The car is now being shown to manufacturers of large plastic parts to point out the smoothness which can be achieved through the new technique of surface preparation.

Recently appointed West Coast Distributor for **WAGNER BROTHERS, INC.,** Detroit manufacturer of electroplating equipment and supplies, is **ALERT SUPPLY COMPANY,** 4755 East 49th St., Los Angeles 58, California, J. D. Tebben, vice-president, Wagner Brothers, Inc., has announced.

Alert Supply will also represent Wagner Brothers in Northern California, Washington and Oregon from distribution outlets in San Francisco, Seattle and Portland.

The jet black finish on this Darrin sports car is the center of attention for Howard P. DeVilbiss, left, president of The DeVilbiss Company, Toledo, and engineering vice president Don Peeps. The "glass" body of the Darrin presented new finishing problems on which DeVilbiss has recently cooperated with Kaiser Motors.

Wagner Brothers, Inc., presently have representatives in Chicago, Cincinnati, Cleveland, Indianapolis, New York, Philadelphia, Rochester (N. Y.) and St. Louis to sell and service automatic plating units, semi-automatic platers, precision hard chrome units, rectifiers, filters, anodes, tanks and tank linings, solutions and supplies.

THE NEILSON CHEMICAL COMPANY, manufacturer of Metalprep, Prep' N'Cote, Lyfanite and other 'Prep' products, has announced the opening of an Eastern Warehouse, located at Allentown, Pennsylvania. Shipment of metal cleaning, conditioning and phosphatizing materials to its Eastern cuctomers, will be made from this warehouse.

To assist them in making immediate deliveries, the Neilson Chemical Company ask that customers continue to direct their purchase orders direct to the Detroit Offices—6561 Benson Street, Detroit 7, Michigan, until further notice.

Charles Matey (left), Harold N. Oleson

CHARLES MATEY has been placed in charge of the Eastern Warehouse. He will work under the supervision of **HAROLD N. OLESON**, who has been elevated to manager of manufacturing and warehousing operations.

ENTHONE, INC., New Haven, Connecticut, has announced the appointment of **WEAVER ENGINEERING AND SUPPLY CO., INC.**, Grand Prairie, Texas (Dallas) as stock point distributor for

Win the
Germ
War!
Use PIONEER
Stanzoils
Only a liquid-tight glove gives positive physical protection from chemical *and germ* causes of hand dermatitis.
PIONEER *milled* neoprene stands extra hours of use in contact with oils, acids, caustics, detergents and disinfectants — has higher tensile, greater tear resistance than any other oil-resistant rubber.
Super-Safe grip creates confidence, speeds work—handles wet slippery objects as if dry.
32 PIONEER styles, weights and sizes. Send for Stanzoil catalog—shows quickly how to select best, most economical glove for every job.
NL-34 Knit-Lined neoprene coated. Lightweight. Curved fingers. Length 10½".
The PIONEER RUBBER COMPANY
285 Tiffin Road • Willard, Ohio
STANZOIL
PIONEER
Quality Gloves for 35 Years

P.S. If your glove problems are unusual because of the nature of your product finishing operations, PIONEER welcomes the opportunity to help you solve them. Write us about your needs and problems — you'll save money, improve your glove service.

Binghamton plant of Austin F. Fletcher, Inc.

their complete line of chemicals for the metal finishing industry. Stocks of Enthone products will be maintained at the Grand Prairie location for shipment to concerns in Texas, Oklahoma, Arkansas and Louisiana.

James Weaver, president, will continue to offer ENTHONICS service in this expanded area with the assistance, when necessary, of the Enthone technical service laboratory and Enthone engineers.

ENTHONE, INC., appointed **AUSTIN T. FLETCHER, INC.**, Binghamton, N. Y., as exclusive distributor for Enthone products and processes in the upper New York State and northeastern Pennsylvania areas. Enthone chemicals will be stocked in the Austin F. Fletcher, Inc., warehouse, and shipment to customers in the area will be made F.O.B. Binghamton.

ENTHONICS service in the area will be continued by Mr. Fletcher and Mr. Gordon Hall, resident representative in Rochester, supplemented by the chemists and engineers of Enthone's home office.

In continuance of a program started two years ago, the **BELKE MANUFACTURING COMPANY** has again granted two full-tuition, five-year scho'arships for the Northwestern University Technological Institute, availab'e to students entering this fall.

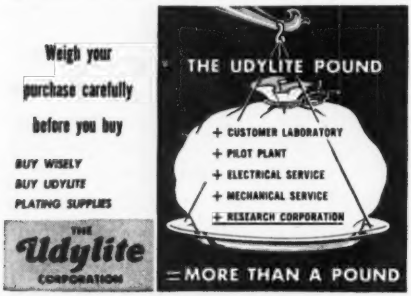
Granted for the purpose of training better qualified men for the electroplating and metal finishing industry, the Belke scholarships are of the cooperative type in which the student alternates college work periods with work periods in industry through a five-year program. At completion of the five-year course, the student receives the degree of Bachelor of Science in Engineering.

Upon enrollment students attend college one and one-half years, then alternate twelve-week periods in college and twelve-week periods in industry. College subjects include Mathematics, Chemistry, Physics, Metallurgy and Engineering. Industrial work consists of actual employment at the prevailing wage in plants of manufacturers of plating and metal finishing equipment, and in metal finishing shops or metal finishing departments of manufacturers.

In addition to providing practical contact with various metal finishing processes, the industrial work periods enable the student to be very nearly self-supporting.

Admission requirements of the Northwestern University Technological Institute include average high school grades in the upper quarter of the class, with three and one-half units of high school mathematics.

Further information will be supplied promptly on request to Raymond W. Kotz, Belke Manufacturing Company, 947 N. Cicero Avenue, Chicago 51, Ill.



NEW POSITIONS

The Detrex Corporation of Detroit, manufacturer of industrial metal-cleaning machinery, chemicals, and drycleaning equipment, has announced the appointment of **PHIL H. RICHEY**, assistant treasurer, to the position of assistant works manager.

Essak Steel & Chemical Co., 4013 Milwaukee Avenue, Chicago 41, Illinois, has expanded its operations in the metal cleaning field and has promoted **HARRY SIROVY** to sales manager and appointed **HAROLD LaCASSE** service manager of the Chemical Division, according to an announcement by Henry Essak, president. Mr. Sirovy, who has been with Essak since 1950, was formerly with Century Vitreous Enamel Product Company. Mr. LaCasse was formerly with Pennsylvania Salt Manufacturing Company. Herman Essak, who is vice-president, continues to head the Steel Division.

FRANK L. LaQUE has been elected vice-president of The International Nickel Company, Inc., and manager of its Development and Research Division, Henry S. Wingate, president, has announced. A distinguished authority on corrosion, Mr. LaQue succeeds in both positions **THOMAS H. WICKENDEN**, who has attained retirement age but will continue to serve the company as a consultant on special projects.

O. B. J. FRASER and **DONALD J. REESE** will serve as the assistant managers of the Division.

Harold A. Kahler

Promat Division, Poor & Company, has announced the appointment of **HAROLD A. KAHLER** as general sales manager of the Eastern Division.

Mr. Kahler is a member of the American Electroplaters' Society and served on Research Committee Project 15. He is a member of the American Society for Metals and the Association of Analytical Chemists.

D. E. MURPHY has been appointed general sales manager, West Coast Division of the Rinshed-Mason Company, Anaheim, California.

Mr. Murphy attended the University of Detroit and graduated from Detroit Institute of Technology. Prior to joining Rinshed-Mason Company, he was associated with Hercules Powder Company at Milwaukee and Los Angeles.

William C. Enright

Jointly announced by Tim G. Meulenberg, president, and R. L. Redmond, vice-president, at ARco (Automotive Rubber Company, Inc.) headquarters in Detroit, was the appointment of **WILLIAM C. ENRIGHT** as sales manager.

A native Detroiter, Mr. Enright is a graduate of the University of Detroit, acquiring B. M. E. and L. L. B. degrees. He is also a member of the Michigan State Bar Association.

Before joining ARco, Mr. Enright spent ten years as a metallurgical engineer with the Chrysler Corporation. Following that, he was made district sales engineer for Western Felt Works, a post he held for three years.

Coming to ARco in 1939, Mr. Enright became a member of the Automotive Rubber Company at its inception and served as a sales engineer for the next six years. In recognition of his outstanding work, Mr. Enright was appointed head of ARco Equipment assuming responsibility for Automotive Rubber Company's activities in the fabrication and rubber insulation of processing tanks, pressure vessels, tank cars, exhaust systems, fume stacks, storage tanks, pipes, and related equipment for the chemical, automotive, aircraft, electroplating, and other industries.

In his new position as the ARco sales manager, Mr. Enright will be concerned with all phases of ARco rubber products manufacture, materials compounding, fabrication, and lining services, involving Automotive Rubber Company facilities in Detroit and Kalamazoo, Michigan.

At the ARco establishment in Detroit, is located the industry's most modern tank lining plant equipped for tailoring and bonding of rubber sheeting to tanks, pipe, fittings, and so on, for protection against corrosion. In Kalamazoo, Michigan, is located another new ARco installation which includes a production parts plant turning out rubber insulated, extruded, molded, and die-cut mechanical parts for the automotive, aircraft,

home appliance, and other industries. Another phase of this ARco operation is compounding and mixing dense and cellular sponge rubber for molding and sheet curing operations.

George B. Beitzel, president of the Pennsylvania Salt Manufacturing Company, has announced the consolidation of its personnel and public relations activities under the direction of **FRED C. ABBOTT,** manager of Personnel and Labor Relations since 1947. The redesignated office will be known as the office of Industrial Relations.

Concurrently **DR. W. AUSTIN BISHOP,** director of Training and Employee Publications, was named manager of Public Relations. He will succeed Cleveland Lane who recently resigned to accept a similar position with the Manufacturing Chemists' Association, Washington, D. C.

"The board of directors of the Pennsylvania Salt Manufacturing Company has established and filled two new offices," President George B. Beitzel has announced.

"DR. WILLIAM ALFRED LaLANDE, JR., was elected vice president and will continue as manager of research and development. **EDWARD F. BEALE,** also named vice president, is treasurer of the company."

WILLIAM P. DRAKE has been named president of the Industrial Chemicals Division of the Pennsylvania Salt Manufacturing Company, it has been announced by George B. Beitzel, president of the consolidated company.

In his new capacity Mr. Drake will be responsible for both the manufacture and sale of Pennsalt's extensive line of industrial chemicals. Other major operating divisions of the consolidated company are the Chemical Specialties Division; the Pennsylvania Salt Manufacturing Company of Washington; Sharples Chemicals, Incorporated; and the Pennsalt International Corporation.

According to a recent announcement by S. John Oechsle, Jr., general manager of the Scotts Lane Plant, two new sales engineers have just been appointed to

Kenneth G. LeFevre (left), Joseph H. Briscoe

the staff of the Protective Coatings Division of Metalweld, Inc., Philadelphia.

They are **KENNETH G. LeFEVRE,** a graduate of the University of Pennsylvania, who was formerly connected with a chemical firm in the Chicago area; and **JOSEPH H. BRISCOE,** who studied engineering at the University of Tulsa and was also on the staff of a chemical organization.

Both these men will handle the sale of synthetic coatings, rubber linings, metal-

PAINT MIXER

MIRACLE
5 GALLON
PAINT REJUVENATOR

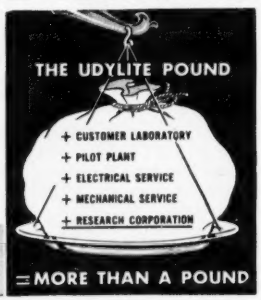
All paint restored to original consistency without opening the can.
2 minutes per gallon.

MIRACLE PAINT REJUVENATOR CO.
127 E. 9th St., St. Paul 1, Minn.

The Udylite pound carries a lot of weight

BUY WISELY
BUY UDYLITE
PLATING SUPPLIES

THE Udylite CORPORATION



=MORE THAN A POUND

lizing, and specification coatings in the New England, Eastern and Southern territory serviced by Metalweld.

J. RICHARD RELICK has been appointed sales representative for Pennsalt's metal processing chemicals in the New York City, Newark and Northeastern Pennsylvania territory, Sales Manager J. J. Duffy, Jr., has announced. Mr. Relick will replace William West, recently assigned to the Pennsylvania Salt Manufacturing Company's Technical Department.

In his new assignment Mr. Relick will sell and service Pennsalt's extensive line of metal cleaners, Fosbond phosphate coatings and Fos Process lubricants for cold extrusion of metals.

The appointment of **JOSEPH E. BUTLER** as a sales engineer for the Whitfield Chemical Company, Detroit, Mich., has been announced by C. Whitfield Smith, company president. His territory will include parts of Michigan, Ohio, and Indiana. Formerly, Mr. Butler was an industrial expediter with the Curtiss Wright Corporation.

Mr. Butler's appointment is part of an expansion program undertaken to meet the increased demand for Whitfield's specialized metal cleaning, phosphatizing and paint stripping chemicals and processes.

Promotion of **CLARE W. GOODSELL** to automotive trades manager of the coated abrasives and related products division has been announced by Minnesota Mining & Manufacturing Company. Mr. Goodsell will make his headquarters at the firm's general offices in St. Paul.

Mr. Goodsell joined 3M in 1938 as a salesman in Omaha, Nebraska. In 1940 he was promoted to distributor trades sales manager in the Chicago area and in 1946 he became combined trades sales manager in 3M's Detroit division. Since 1949 Goodsell has been automotive trades sales manager in the Detroit division.

He replaces **KENNETH J. SHEA** who has been promoted to vice president of sales for 3M's International division.

Promotion of **WILLIAM H. ARMSTRONG** to sales supervisor of "Honite" brand products has been announced.

He will headquarter in St. Paul. Previously he was a salesman in Philadelphia, Pa., and New York.

In addition to "Honite" brand products, 3M manufactures "Scotch" brand cellophane, electrical, industrial, masking, filament and sound recording tapes; adhesives and coatings; coated abrasives; roofing granules; reflective sheeting; plastics; ribbons and laces; printing accessories; office duplicating equipment and chemicals.

Barrel finishing research and technical services have been expanded by Minnesota Mining and Manufacturing Co. of St. Paul, maker of "Honite" brand barrel finishing chips and compounds.

John Glasrud

A research team offering full scale technical services in processing, sampling, and compound and media problems will be headed by **JOHN GLASRUD**, newly appointed technical supervisor of barrel finishing research, the 3M company said. Mr. Glasrud's responsibility includes "Honite" quality control, improvement and development of barrel finishing techniques, and development of new types of chips and compounds.

Mr. Glasrud, 33, who has been with 3M seven years, has been a technical supervisor of the roofing granule research laboratory. After graduation from University of Minnesota in 1943 he worked in the General Motors research laboratory in Detroit for several months before serving in the Navy as an electronics officer.

Appointment of **ALBERT D. WAGEN** as assistant divisional director of the Milwaukee paint division has been announced by E. D. Peck, vice president in charge of Pittsburgh Plate Glass Company's paint and brush division.

Prior to his appointment Mr. Wagen had been divisional director of the Pacific Coast Paint Division.

A native of Madison, Wisconsin, Mr. Wagen is a graduate of the University of Wisconsin. In his new position, he will make his headquarters at Milwaukee where he will assist M. R. Randlett, divisional director of the Milwaukee Paint Division.

Four technical department appointments in Pittsburgh Plate Glass Company's paint division have been announced by E. D. Peck, vice president in charge of the paint and brush division.

Named to new positions are **RICHARD T. UBBEN** as divisional technical coordinator, **DR. PIERSON G. BOERMANS** as divisional supervisor of trade sales development, **DR. CHESTER G. GAUERKE** as divisional supervisor of resin development and **ROBERT L. NELSON** who becomes administrative assistant to Dr. William W. Bauer, technical director of the paint division.

Mr. Ubben joined the firm at its Newark paint factory in 1942 and served there as technical director until he assumed a similar position at Milwaukee in 1948.

A native of Grand Rapids, Michigan, Dr. Boermans has been associated with Pittsburgh Plate Glass since 1943. In his new position Dr. Boermans will be responsible for the development and performance of standard trade sales products manufactured at all factories.

Dr. Gauerke joined Pittsburgh Plate Glass as a research chemist in 1935. He will serve as a consultant on the manufacture of resin at Milwaukee.

Prior to his appointment, Mr. Nelson was engaged in development work on automotive finishes at Milwaukee. A native of Galesburg, Illinois, he graduated from Western Illinois State College.

Appointment of **ELMER H. KOLL** as technical director for its Milwaukee paint factory has been announced by E. D. Peck, vice president in charge of Pittsburgh Plate Glass Company's paint and brush division.

ARTHUR F. RYLANDER will succeed Mr. Koll as assistant technical director. Prior to his promotion Mr. Rylander was supervisor of the varnish vehicle and container coatings laboratory.

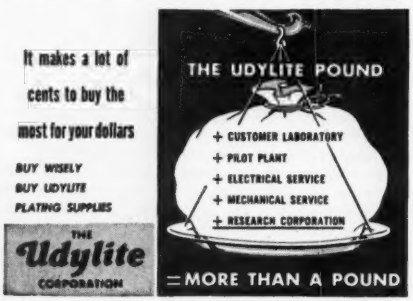
A native of Milwaukee, Mr. Koll has been associated with Pittsburgh Plate Glass Company for more than 25 years. He is a graduate of the University of Wisconsin with a Bachelor of Science degree in chemical engineering. In his new assignment Mr. Koll will be responsible for the development of industrial and special trade sales products and quality control of all products manufactured at Milwaukee.

Mr. Rylander, who started with the firm as a chemist, has been associated with Pittsburgh Plate for nearly 25 years. A native of Glenavon, Illinois, he was graduated from the University of Illinois with a Bachelor of Science degree in chemistry. He will supervise the development and quality control of industrial products.

Hanson - Van Winkle - Munning Co., manufacturer of plating and polishing equipment and supplies, has expanded its Michigan sales force and concurrently announced new appointments in Ohio and Massachusetts.

Enlarging its Michigan sales staff, H-VW-M appointed **C. M. KNIGHTS** special representative for the Detroit area. At the same time it appointed **J. D. KERSHAW** new district manager of Michigan, **CALVIN E. A. SOLLA** district manager of Ohio, and **HILTON**

J. D. Kershaw



Calvin E. A. Solla (left), Hilton M. Smith, C. M. Knights

M. SMITH new sales representative for the Boston area.

Mr. Knights, formerly district manager of Michigan, will concentrate on direct selling with automotive accounts in the Detroit territory. A member of the American Electroplaters' Society, he has been with H-VW-M for 25 years.

Mr. Kershaw moves to Michigan from Ohio where he was district manager of the state. He joined H-VW-M in 1945, and served, prior to his Ohio appointment, as the company's Western Michigan sales representative for eight years. Before joining H-VW-M, Mr. Kershaw spent four years with an automotive company as plating supervisor. Also a member of A.E.S., he is a graduate of Illinois Institute of Technology, B.S. degree in chemistry.

Prior to his Ohio appointment, Mr. Solla was salesman for H-VW-M in the Boston area, a post he held for 2½ years. In his new assignment, he personally will cover North-Central Ohio, and direct activities throughout the state from his new Cleveland headquarters. A member of A.E.S., he is an engineering graduate of Lafayette College.

Mr. Smith, a new member of the H-VW-M sales staff, will now work out of the Boston office. He will cover Rhode Island, Eastern Massachusetts, New Hampshire and Maine. Smith joined H-VW-M in January of this year, and has been undergoing training since then. He came to the company after six years of sales experience. A graduate of New Jersey State Teachers College, he has taken postgraduate studies in chemistry at Monmouth Junior College and Rutgers University.

Oakite Products, Inc., manufacturer of industrial cleaning and metal finishing materials, has announced the assignment of the following new technical service representatives: **MALCOLM N. GRAY**, in the Lincoln, Nebraska, area; **JOHN N. LEE**, Miami, Florida; **KENNETH L. OLIVER**, Fort Wayne, Indiana; **THOMAS D. ELLSWORTH**, Grand Rapids, Mich.; **D. O. MUNDALE**, Asheville, N. C.; **HASKELL WILDER**, La Crosse, Wisconsin; **LLOYD W. KAGLEY**, Knoxville, Tenn.; **WILLIAM D. HUDSON**, Topeka, Kansas; and **HENRY W. DIETER**, Youngstown, Ohio.

The new representatives completed an intensive, eight-week training course at the company's New York headquarters and in the field before taking up their new assignments.

Joseph J. Cizas

Hanson - Van Winkle - Munning Co., manufacturer of electroplating and polishing equipment and supplies, has announced the appointment of **JOSEPH J. CIZAS** as field sales representative for the southwestern territory of Missouri, Texas, Kansas, Arkansas and Louisiana.

Mr. Cizas will maintain his office in St. Louis. H-VW-M will continue its distributors in these states, with Mr. Cizas supplementing their coverage. He joined H-VW-M in May, 1953, and completed a training program just before receiving his southwestern assignment.

A graduate of Bowling Green State University, Ohio, Mr. Cizas received his B.S. degree in chemistry in 1949. He has also done graduate work in chemistry at New York University.

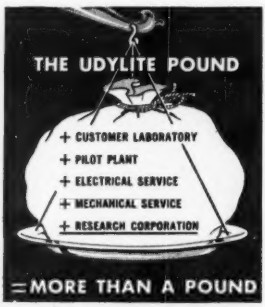
John M. Davidson

JOHN M. DAVIDSON has been appointed assistant sales manager of the Metal Processing Department of Pennsylvania Salt Mfg. Co., Philadelphia, Pennsylvania.

In his new position Mr. Davidson will be responsible for all field activity and for the supervision of Product - Sales Supervisors. Before this appointment he was supervisor for Pennsalt Cleaners, after serving as Philadelphia District sales manager for Industrial Chemicals.

Mr. Davidson is an active Naval Reserve officer, holding the rank of Commander. A graduate of Dickinson College, he earned his Masters degree at Temple University. He is a member of the American Electroplaters' Society, and the Chemical Club of Philadelphia.

Would you like to get extras for the dollars you spend?



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Metalwash Machinery Corporation of Elizabeth, New Jersey has appointed two additional sales representatives for its line of industrial machinery.

Frank J. Johnson (left), Charles J. Auger

CHARLES J. AUGER, with headquarters in Detroit, will represent Metalwash in the State of Michigan for washing, pickling, drying and degreasing machinery. Mr. Auger, a graduate of Princeton University, has been associated with the Metalwash Degreaser Division, at the factory, for a number of years.

FRANK J. JOHNSON will represent the company in Metropolitan New York as well as in Northern New Jersey for some products. Mr. Johnson, a graduate of Georgia Institute of Technology, will handle degreasers and Uscolite (a plastic material used for corrosion resistant ventilation systems), in New Jersey; in New York he will handle the full line of Metalwash Industrial Equipment for washing, pickling, drying and degreasing. Prior to this appointment Mr. Johnson was associated with The Sales Engineering Department of the company at its Elizabeth, New Jersey plant.

Metal and Thermit Corporation, New York, has announced the appointment of **FRANK J. O'BRIEN, JR.,** as general sales manager. Mr. O'Brien, formerly manager of the Heekin Can Company plant at Springdale, Ark., came to Metal & Thermit in 1951 as manager of its scrap division, and has been a vice president since 1952.

JOHN T. TINNON, formerly vice president and general sales manager, continues as chief executive sales officer of the company with extended activities

including general administration and planning and programming for company expansion.

HARRY W. BUCHANAN, JR., has been appointed sales manager, chemical division. Mr. Buchanan, a graduate of Rensselaer Polytechnic Institute in chemical engineering, came to Metal and Thermit in 1947. In 1948 he joined the company's chemical sales division of which he became assistant sales manager in 1950.

Mr. Buchanan will be responsible for merchandising the company's entire line of industrial chemicals, consisting in part of materials for electroplating of tin and tin alloys, and a new stabilizer for rigid vinyls which is being marketed under the trade name of Thermolite.

Donald H. Schultz

The appointment of **DONALD H. SCHULTZ** as sales representative in the Wisconsin area for Circo vapor degreasers and other Circo metal cleaning products has been announced by Melville Morris, president of the Circo Equipment Company, 120 Central Avenue, Clark (Rahway), New Jersey.

Mr. Schultz has been active for the past eight years in the distribution of metal finishing equipment and supplies in the area of Wisconsin. He is a member of the American Electroplaters' Society.

Mr. Schultz has been placed in charge of Circo's Milwaukee office located at 3176 North 81st Street, telephone Hilltop 2-4480.

Gordon B. Richdale, president of Baker & Co., Inc., Newark, N. J., has announced the appointment of **LEONARD CRANE** as manager of the Chicago office. For the past fifteen years Mr. Crane has been a sales representative in the midwest for Baker & Co., Inc., leading refiner and worker of precious metals.

Mr. Crane has been an active member of The American Society for Metals.

Metals Disintegrating Company, Inc., Elizabeth, N. J., manufacturer of metal pigments, metal powders and metal abrasives, has announced that **FREDERICK S. GREENAWALD** has been appointed supervisor of the MD Customer Service Laboratory.

Frederick S. Greenawald

Mr. Greenawald had previously been associated with Glidden Company, at Reading, Pa.; The Wordway Paint Works, at Chicago Heights, Ill.; Devoe & Raynolds Co., Brooklyn, N. Y.; and more recently, as chief of Customer Service Laboratory with Nuodex Products Co., Inc., at Elizabeth, N. J.

Frank Watt, general sales manager of Frederic B. Stevens, Inc., Detroit, Michigan, has announced the creation of two new district sales offices.

For the company's Foundry Sales Division the company's Indianapolis office and warehouse will be the center of activities for the Central States District.

VINCE BRUCE, Stevens representative in Indiana for several years has been appointed to the position of district sales manager. He will supervise Stevens foundry supply sales activities in Indiana, Ohio, Kentucky, Tennessee, Illinois and a portion of Iowa.

At the same time, Mr. Watt also announced the creation of a similar sales district for the company's Metal Finishing Division to have headquarters in Dayton, Ohio, and warehouse facilities in Springfield, Ohio.

HARRY BROWN has been promoted to the position of district sales manager for this area. The territory to be supervised by Mr. Brown will be roughly the same as for the foundry group.

F. JEROME TONE, JR. has been announced senior vice president and **FREDERICK T. KEELOR** has been appointed director of sales for The Carborundum Company.

Mr. Tone, a member of the board of directors and vice president, sales, since

1942, will have broad executive responsibilities assisting and representing the president in many phases of the business, working with all elements of the company and its subsidiaries in the fields of distribution, sales, and related activities. Further, he will handle and direct relations with customers, suppliers, distributors' associations and other organizations of interest to Carborundum.

Mr. Keeler, formerly director of the marketing branch of the sales division, will be responsible for the functional direction of the sales programs of the company and its subsidiaries.

W. J. ULRICH, Carborundum Company senior sales representative in the Detroit area has been elected vice president of the company, according to an announcement by F. J. Tone, Jr., vice president and a director of the company. Mr. Ulrich will continue his sales activities in the Detroit area.

The election of **F. W. BONACKER** as assistant vice president in charge of sales for Carborundum's Bonded Products and Grain Division, also has been announced.

Other appointments to Niagara Falls posts in the Bonded Products and Grain Division are: **W. J. KINGSLEY,** sales manager for industrial product lines; and **J. G. FRITZINGER,** sales manager for special accounts.

Appointments to headquarter posts of the Coated Products Division in Wheatfield, New York: **JOHN F. CLAYDON,** director of the industrial sales branch; and **H. P. DALES,** industrial sales manager.

The New York and Philadelphia sales districts have been combined into a new sales district designated as Middle Atlantic Sales District, with **J. A. DECKER** as district sales manager.

Other district sales managers appointed: **W. D. DICKERSON** for the Detroit District; and **H. C. SMITH,** St. Louis District sales manager.

CARL L. ADELMAN has been appointed district sales manager for the Middle Atlantic District; **F. M. MANSBERRY** for both the Cleveland and Pittsbugh districts; **O. P. QUIST,** Chicago District; and **J. G. KHOURY** has been appointed sales manager for coated product lines in the Detroit District.

Recently appointed district sales managers for the Bonded Products and Grain Division are: **F. J. MILLER** for the Middle Atlantic District; **E. GEORGE BALL,** the Cleveland District; **R. H. HUNTINGTON,** Chicago District; and **H. J. JEFFERS,** Bonded Products and Grain Sales Manager for the Detroit District.

DAVID S. BRUCE has been appointed director of operations of Hercules Powder Company's Cellulose Products Department. The appointment created a new position in the department.

Mr. Bruce, a native of Portland, Oregon, has been manager of new product promotion for the Cellulose Products Department since January, 1952. He first joined Hercules Powder Company at its Explosives Department plant at Hercules, California, in 1936.

The Barrett Varnish Company has announced the appointment of **B. D. LUNDY** as a sales representative in the Chicago area. Mr. Lundy has had 25 years of experience in formulations, production and technical service in lacquers, synthetics and special items in the industrial field.

B. D. Lundy

The appointment of **ROBERT B. PIERCE** as district sales representative, Chicago, Illinois, area for the M & E Manufacturing Company, manufacturer of complete spray finishing equipment and systems, has been announced by Jack K. Stevenson, sales manager.

Mr. Pierce has had eight years' industrial selling experience and makes his headquarters at 333 North Michigan Boulevard, Chicago, Illinois. He attended Northwestern University and has extensive experience in the ventilation and finishing fields.

ELMER C. SCHACHT was reelected president of Behr-Manning Corporation, a Norton Company subsidiary, at the annual election of officers. This will be Mr. Schacht's fifth term as president of the abrasives firm.

Two new vice presidents were elected at the meeting. They were **LEON E. HOOGSTOEL,** the firm's technical director since 1945, and **EDWIN C. EVANS,** the director of manufacturing.

TERENCE A. CORDNER, who was elected treasurer, was designated con-

Leon E. Hoogstoel (left), Elmer C. Schacht, Edwin C. Evans.

troller by the directors.

Other officers, all re-elected, are **JOHN G. AMSTUZ** and **JOHN M. COOK**, vice presidents; **WILLIAM L. CLARK**, secretary; and **MISS H. VERMAIDEL TEELING** and **ARTHUR W. BEDELL**, assistant secretaries.

At their meeting, the board of directors also designated the operating board for the ensuing year. It will include Harold T. Abrams, William I. Clark, Jr., Terence A. Cordner, Edwin C. Evans, Lester A. Hansen, Leon E. Hoogstoel, Byron C. Keene, Randall S. Manchester, Henry R. Merrill, Nicholas E. Oglesby, Howard G. Seaman, John G. Shirley, Henry J. Sidford, William J. Thelen, and Wilber Jones.

Russell J. O'Neil

Norton Company of Worcester, Mass., has announced the retirement of **WILLIAM N. JOVE**, field engineer in the Chicago area, after a career of over 51 years. **WILLIAM D. BENNETT**, abrasive engineer in Cleveland, has retired after 46 years of service.

HARLAN W. COBB has been named to succeed Mr. Bennett. Thirty-seven years in Norton's employ, Mr. Cobb has been at Cleveland since 1929 holding positions as stock supervisor, junior abrasive engineer and office manager.

In another change among Norton sales personnel, **FRED J. BENN** has been appointed an abrasive engineer and will be responsible for a new territory created by dividing the territory formerly covered entirely by **SHERWOOD F. PRESCOTT**. Mr. Benn will center his activities in Louisville, Kentucky, and cover a large portion of that state. Mr. Prescott will continue his residence in the Cincinnati area and cover his portion of the territory which includes southern Ohio, and eastern Indiana.

WILLIAM REIBITZ, formerly field engineer in Detroit has been appointed abrasive engineer in the Detroit area, exchanging jobs with **ALLAN JAQUES**.

RUSSELL J. O'NEIL has been appointed a field engineer. He will be assigned to Norton's Detroit district office.

Mr. O'Neil has been with Norton since 1945. He was formerly a group leader at the Detroit office from 1947 to 1951 when he became a supervisor at the Cleveland office. Since August, 1953, he has been taking the sales training course.

Raymond M. Rebert

RAYMOND M. REBERT has been appointed chief chemist in charge of the chemical section of Norton Company's Research and Development department. He replaces **MARK O. LAMAR**, who retired after 37 years with the company.

Mr. Rebert has been an analytical chemist since he joined the company 27 years ago. His first few years were spent at the Niagara Falls facilities with the remaining service at the Worcester office. He was graduated from Gettysburg College, Gettysburg, Pa., and is a member of the American Chemical Society.

J. L. Martin

The S. A. Day Mfg. Co., Inc., manufacturer of buffs, polishing wheels and abrasive compositions, distributor of finishing supplies, has announced the appointment of **J. L. MARTIN** as vice president in charge of sales.

Mr. Martin, a native of Buffalo, New York, is a chemical graduate of Canisius College and a veteran of three years as a commissioned officer in the United States Navy. He was formerly associated with Behr-Manning Corporation as a field engineer in the Western New York area.

Diamond Alkali Company has established a Chlorinated Products Division, naming **C. E. LYON,** a vice president and former works manager of the Houston plant, as General Manager.

A. L. GEISINGER, also a vice president, has been appointed general manager of the newly established Plastics Division.

FRANK CHRENCIK has been promoted to succeed Mr. Lyon as works manager of the Houston plant. Previously superintendent of the Edgewood, Md., electrochemical plant, Mr. Chrencik has been assistant works manager in Houston for the past six yeears.

Each of the two new divisions will operate autonomously, assuming all sales, research and plant manufacturing responsibilities under the direction of the division general managers functioning from the Diamond Alkali general headquarters in Cleveland.

The Plastics Division has absorbed all functions in connection with the polyvinyl chloride manufacturing facilities recently constructed and put into production late in 1953.

Products and plant facilities encompassed by the Chlorinated Products Division are: agricultural chemicals, Houston and Newark, N. J.; Chlorowax, carbon tetrachloride and hydrochloric acid, Painesville, Ohio; perchlorethylene, hydrochloric acid and vinyl monomer, Houston; and methyl chloride, methylene chloride, chloroforms and hydrochloric acid, Belle, W. Va.

ROBERT M. BURFORD has been named sales supervisor of the newly created Buffalo district for the Metal Processing Department of the Pennsylvania Salt Manufacturing Company.

In his new position Mr. Burford will supervise sales and service activities for Pennsalt metal cleaners, Fosbond phosphate coatings, and Fos Process lubricants for cold metal working. His territory will include New York state, eastern Ohio, northeastern Pennsylvania, and northern New Jersey.

Mr. Burford, a chemical engineer, attended the University of Pittsburgh and joined the sales staff of Pennsalt's Special Chemicals Division in 1947.

After having served more than thirty-five years as president of the Eclipse Air Brush Company, Newark, N. J., **HOWARD W. BEACH** has resigned. He will continue to serve as Chairman of the Board.

Howard W. Beach (left), Warren Beach

WARREN BEACH, his son, has been elected his successor. Warren Beach has been associated with the company since 1945 when he was released from service, and has been in active charge of sales.

O. A. STOCKER, well known in the electroplating field for over 25 years, has joined the Sales Department of the Electroplating Division of United Chromium, Incorporated. He has now completed his training on Unichrome processes and materials at the Detroit Research Laboratories and Pilot Plant of United Chromium and has assumed his duties with the company Sales Department.

Mr. Stocker, a 1925 graduate of the University of Michigan with a B.S. Ch. E. degree, started his career in electroplating as a research chemist for the old Dodge Bros. Corp. in 1926. From 1928 through 1936, he worked for Bohn Aluminum and Brass Corp., first as a plating research chemist, later as assistant chief metallurgist. He joined the Seymour Mfg. Co. in 1937 where he helped develop a bright nickel plating process and was copatentee on several inventions relating to bright nickel plating. While with that company he was promoted to technical director of the Bright Nickel Division. In 1949, he became general manager of Rufert Chemical Co., a manufacturer of nickel catalyst.

Frederic B. Stevens of Canada, Ltd., has announced the appointment of **EDWIN STANLEY OGDEN,** former manager of the metal finishing department, E & S Currie, Ltd., of Toronto, as a sales representative.

Mr. Ogden also was manager of Toronto's Empire Silversmith's Ltd. metal finishing department for over two years. Prior to that he was engaged in various phases of the metal finishing business in England. In November he completed the training course in the various lines of automatic and auxiliary metal finishing equipment manufactured by the Stevens organization. Mr. Ogden is a member of the Toronto Branch, A.E.S.

V. J. Dolan & Co., Inc., Chicago, Ill., manufacturer of industrial finishes, has announced the appointment of **DR. HELLMUTH SCHUPP,** to the laboratory staff.

Dr. Schupp is a graduate of the University of Zurich, Switzerland and received his degree in cellulose chemistry there. He was employed by some of the leading protective coatings manufacturers in Switzerland, Germany and Holland before coming to this country.

HONORS

F. A. UPPER, The Carborundum Company, Niagara Falls, N. Y., has received appointment to the Standards Council of the American Standards Association, representing the Grinding Wheel Institute, according to an announcement by Vice Admiral George F. Hussey, Jr., managing director of the association.

Mr. Upper was also recently appointed to the Mechanical Standards Board of the association. Chairman of the Standardization Committee of the Grinding Wheel Institute, he has been granted 13 U. S. patents and 18 foreign patents on abrasive products and processes.

At present, Mr. Upper, who has served 30 years with The Carborundum Company, is manager of the Sales Engineering Branch of the company.

The Standards Council is one of the two governing bodies of ASA. As a member of the council, Mr. Upper will help to formulate rules for the development of standards and will approve as American Standards those supported by a national consensus.

George N. Jeppson

GEORGE N. JEPPSON, chairman of the board, Norton Company, Worcester, Mass., received the fifth annual Isaiah Thomas Award for distinguished community service from the Advertising Club of Worcester April 21 at a banquet attended by 500 New England business and industrial leaders.

Mr. Jeppson, an active 81, has for more than 60 years been identified with Worcester industry, charities, finance and civic affairs. Son of John Jeppson, one of Norton Company's founders, he came to work for Norton as a grinding wheel maker in 1892. His contributions to the abrasive industry are legend. One of the most memorable came after his election as Norton board chairman in 1946 when he devised, planned and initiated, for the first time, streamlined production of grinding wheels using electrical tunnel kilns of his own design.

A native of Worcester, he has been five times decorated by King Gustav of Sweden — the last in 1948 when made Commander, First Class, Royal Order of Vasa with Star, an honor rarely conferred on anyone in this country or Sweden. He was also decorated by President Ryti of Finland in 1941. Among many other honors he is a fellow of the American Ceramic Society.

Robert L. Giesel

ROBERT L. GIESEL, president of Adolph Plating, Inc., 334 N. Bell Avenue, Chicago, has been elected to membership in the Young Presidents' Organization. The YPO is a business group composed of nationally recognized executives who have not yet attained the age of forty, but who have risen to leadership of their respective companies.

On June 2 at the Gatesworth Hotel in St. Louis, **CHANDEYSSON ELECTRIC COMPANY** held a dinner dance for all employees of the company.

Following the dinner, Service Pins and Certificates were awarded to all employees with more than five years of service. In all, 80 pins were awarded, of which 24 were for more than 20 years of service. Four of these persons have been with the company more than 30 years.

In addition, engraved gold watches were given to 15 employees with more than 25 years of service.

The awards were made by James F. Carland, executive vice president of Chandeysson Electric Company, who pointed out that the 15 men and women seated at the head table had a combined experience with the company totalling 350 years.

MEETINGS

The **MICHIGAN STATE COLLEGE ALUMNI** in the electroplating field are planning a breakfast reunion in connection with the **41ST ANNUAL CONVENTION** of the **AMERICAN ELECTROPLATERS' SOCIETY,** to be held in New York City July 12-15. All former students of Professor Ewing are invited, together with other alumni who are interested in the electrodeposition of metals. Announcements have been sent to all Michigan State alumni known to be in this field, but since such lists are not complete, requests for further notification should be sent in promptly. Reunion plans are being handled by C. Fred Gurnham, head of the Department of Chemical Engineering, Michigan State College.

The **DETROIT BRANCH** of the **A.E.S.** will hold its annual Stag Day Picnic on Saturday, July 31st, 1954, at the Glenn Oaks Country Club on the outksirts of Detroit.

The Stag Day includes the exclusive use of the golf club and course for the day, games with prizes, free beer and pretzels, buffet style dinner, entertainment, and a door prize for everyone.

R. H. Dudley, United Chromium, Inc., is the general chairman for the occasion. His committee is as follows: Advisory Committee, W. L. Pinner, H. E. Head; Publicity Chairman, J. C. Drinkwater; Ticket Chairman, J. F. Siefen; Prize Chairman, Manuel Ben; Parking, C. Borlet; Athletic Chairman, W. Wilson; Dinner, D. Bigge; Finance, C. C. Conley; Ex-Officio Members, J. Gurski, L. Borchert.

Almost nine hundred members and guests attended last year's Stag Day, so your orders should be in early for assurance of tickets. Tickets may be obtained from Mr. John F. Siefen, 5657 Lauderdale in Detroit.

At Chandeysson Service Pin Award Dinner can be seen (left to right, standing): Mrs. Adele Chandeysson, Miss Dolores Bundschuh, James F. Carland, T. A. Leonhardt.

SOCIETIES

The **24TH ANNUAL EDUCATIONAL SESSION AND DINNER DANCE** of the **LOS ANGLES BRANCH** of the **A. E. S.**, was held in the Ambassador Hotel, Los Angeles. Robert A. Bailey, Beckman Instruments, Inc., South Pasadena, Calif., spoke on "Instrumentation in the Plating Industry." Dr. Henry Brown, Udylite Corp., Detroit, Mich., discussed "The Role of Various Surface Active Agents in Electroplating Baths." Robert W. Couch, United Chromium, Inc., described "Recent Developments in Chromium Plating." Myron B. Diggin, technical director of Hanson-Van Winkle-Munning Co., Matawan, N. J., spoke on "Helpful Hints on Unusual Plating Problems."

Social events conducted prior to and following the Educational Session made the meeting both successful and memorable.

(Left to right): Dr. Henry Brown, Udylite Corp.; Robert A. Bailey, Beckman Instruments, Inc.; George Magurean, technical session chairman.
(Photo courtesy G. Stuart Krentel, Hanson-Van Winkle-Munning Co., Los Angeles, Calif.)

At the Baltimore-Washington Branch, A.E.S., Annual Meeting, Dr. George P. Swift (center), A.E.S. President, was presented with the "award of the Pot" by Kenneth M. Huston, Armco Steel Corp. At left is Vincent J. Hughes, president of the Baltimore-Washington Branch. Dr. Swift is the 16th A.E.S. leader to receive the Order of the Pot, and thus become a member of the organization of A.E.S. Past Presidents.
(Photo courtesy "Plating," Newark 2, N. J.)

A. E. S. representatives in attendance during A.S.T.M. Committee Week, held recently in Washington, D. C., included (left to right): H. E. Head, Briggs Mfg. Co., Detroit; Gerald A. Lux, Oakite Products, Inc., New York; Robert D. Miller, Electric Auto-Lite Co., Sharonville, Ohio; A. H. DuRose, Harshaw Chemical Co., Cleveland.
(Photo courtesy "Plating," Newark 2, N. J.)

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By J. A. Patterson

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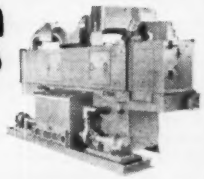

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25. Stevens Catalog No. 60. Full automatic barrel type plating and processing machines manufactured by Frederic B. Stevens, Inc., Detroit 16, Mich., are illustrated and described in an eight page catalog available from the company.

26. Koch Industrial Equipment. A number of product analysis sheets, describing water wash spray booths, gas shelf-type ovens, electric shelf-type ovens, dry-type spray booths, propeller-type exhaust fans, and truck-type ovens, are available from Geo. Koch Sons, Inc., Evansville 4, Indiana. Diagrams illustrating construction are included and specifications listed.

27. W & T Sulphur Dioxide Reduction Equipment. Data sheets on Wallace & Tiernan Sulphur Dioxide Feeders and Alkaline Chlorination Equipment for safe waste water disposal are available from the company, 25 Main St., Belleville 9, N. J.

28. Gas Combustion Equipment. Bryant Industrial Gas Combustion Equipment for heating processing solutions, baking ovens, and for other heating applications, is described in Condensed Catalog ID-292-A, available from Bryant Industrial Products Corp., 17700 Miles Ave., Cleveland 28, Ohio.

29. Magnetic Amplifier Bulletin. Advance information on a magnetic amplifier incorporating a new design principle for voltage regulation is available upon request from the Rapid Electric Co., 2877 Middletown Rd., New York 61, N. Y.

30. Stanley Bulletin 40X-610. Full details about the application of a new one-package wash primer, 40X-610, are included in a bulletin available from Stanley Chemical Co., 31 Berlin St., East Berlin, Conn.

31. Mixed-Bed Demineralization Bulletin 3983. Prepared from the talk, "Automatic Mixed-Bed Demineralizing at the Albany Steam Plant," given before The American Power Conference, an eight page booklet, available from The Permutit Co., 330 West 42nd St., New York 36, N. Y., recites the practical experiences and the economy of operation in utilizing fully automatic mixed-bed equipment to produce make-up water.

32. "Grinding and Finishing Nonferrous Metals with 3M Abrasives." A booklet describing the use of coated abrasives for grinding and finishing non-ferrous metals is available from Minnesota Mining and Manufacturing Co., 900 Fauquier St., St. Paul 6, Minn. Illustrated with before-and-after pictures of aluminum, brass, bronze, manganese bronze and magnesium products on which coated abrasive belts or discs were used, the booklet also shows the use of coated abrasives in the finishing of patterns, molds and dies; and the use of pressure sensitive tapes in non-ferrous foundries. It includes diagrams of floor and bench backstands, the platen sander and the portable disc grinder.

33. Ventgard Bulletin. Barnstead Still & Sterilizer Co., 12 Lanesville Terrace, Forest Hills, Boston 31, Mass., is distributing Bulletin No. 131 which describes in detail the Barnstead Ventgard for protecting distilled water in storage from bacteria, dust, mist, and gases.

34. Straits Tin. A pictured narrative of tin's almost limitless present and prospective uses in American industry and of operations in mining it in Red-guerrilla-plagued Malaya, is told in a 20-page booklet available from The Malayan Tin Bureau, 1028 Connecticut Ave., N. W., Washington 6, D. C.

35. Bulletin on Industrial Ovens. Bulletin D-53-20, available from Newcomb-Detroit Co., 5761 Russell St., Detroit 11, Mich., describes engineering, manufacturing, and installation for all processing ovens. Application to industry, source of heat, selection of heaters, control of heat, distribution of heat, are discussed, and photos of typical oven installations are included.

36. Raise Your Plating Production. A data sheet available from Smoothex, Inc., 10705 Briggs Rd., Cleveland 11, Ohio, describes the Smoothex Bright Copper Process for maximum brightness, throwing power, and plating speed.

37. "H-T Sincolite" Plating Cylinders. Singleton Bulletin RC-101, available from The Singleton Co., 5317 St. Clair Ave., Cleveland 3, Ohio, illustrates and describes the complete line of "H-T Sincolite" Plating Cylinders. Several features exclusive with the various models offered are outlined.

USE CARD FOR FREE LITERATURE

38. Electroplating and Polishing Equipment. A catalog on burnishing barrels, plating barrels, conveyorized plating equipment and supplies, and equipment for polishing and plating operations is available from Lasalco, Inc., 2818-38 La Salle St., St. Louis 4, Missouri.

39. Sly Industrial Ovens. Bulletin 200, produced by the W. W. Sly Mfg. Co., 4784 Train Ave., Cleveland 2, Ohio, offers many solutions to various industrial oven and process heating problems.

40. Coated Abrasives. A handbook and digest of coated abrasive technology, by E. B. Gallaher, is available to users and sellers of abrasives, to educational institutions and libraries, upon request to Clover Mfg. Co., Norwalk, Conn.

41. Neilson Bulletins. Bulletins are available from the Neilson Chemical Co., 6561 Benson St., Detroit 7, Mich., describing the various products of the company for metal conditioning, rust removing, and phosphatizing.

42. Rollacoat Finishes. Available from Gasway Corporation, 6463 N. Ravenswood Ave., Chicago 26, Illinois, is an illustrated booklet discussing the principle and mechanics of roller coating. Strip coating is explained and illustrated, as is the selection of coating rolls.

43. Kelvin Bridge Booklet. Construction data and diagrams for building and operating a Kelvin Bridge Meter for determining surface resistance values in connection with aluminum spot welding, are contained in a booklet available from the Frederick Gumm Chemical Co., Inc., 538 Forest St., Kearny, N. J.

44. Spray Gun Motion Study. A booklet prepared and published by DeVilbiss Co., 300 Phillips Ave., Toledo 1, Ohio, discusses high quality finishes at a minimum cost, with less operator fatigue. Correct procedure for spraying flat surfaces, panels, long work, level surfaces, edges and corners, inside corners, slender work, open work, and round work, are illustrated.

45. Koroseal Sheet Bulletin. MW Protective Coatings Div., Metalweld, Inc., Scotts Lane & Cresson Ave., Philadelphia 29, Pa., has available a four page bulletin discussing, illustrating and listing considerable data on the application of flexible Koroseal sheet to plating tanks, racks, and vats.

46. Troxide Data Sheet No. 14. Troxide dry acid pickling salt, a product of MacDermid, Inc., Waterbury 20, Conn., is discussed on Data Sheet No. 14, available from MacDermid on request.

47. Fan Bulletin No. 500. Axial flow, direct-connected exhaust fans are fully illustrated with performance charts, specification sheets, and application data in Bulletin No. 500, available from M & E Mfg. Co., 2537 Winthrop Ave., Indianapolis, Indiana.

48. Sand Blast Gun. A data sheet illustrating and describing the Sandstorm Sand Blast Gun, for surface removal of rust, scale, paint and dirt, and for texturing and etching glass, ceramics, and wood, is available from Lindberg Products Co., P.O. Box 885, Los Gatos, California.

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49. "Where to Buy." Lea-Ronal, Inc., 42-48 27th St., Long Island City 1, N. Y., has available a four page folder describing the four Lea organizations and listing the 65 authorized distributors in principal cities in the U. S. and Canada. The abrasive compositions and electrochemical specialties produced by the Lea organization are listed and described.

50. Klem Chemicals Catalog. Klem Chemicals, Inc., 14401 Lanson Ave., Dearborn, Mich., has a complete catalog of chemical products, which is available upon request to the company.

51. Industrial Ovens. A booklet available from Kirk & Blum Mfg. Co., 3116 Forrer St., Cincinnati 9, Ohio, illustrates and describes the various model ovens for drying, baking or dehydrating, which are designed and manufactured by the company.

52. Bulletin 754 explains the uses and advantages of the plastic ventilating ducts available from Heil Process Equipment Corp., 12901 Elmwood Ave., Cleveland 11, Ohio. Size schedules for round and rectangular ducts are listed.

53. 30th Anniversary Catalog. Gardner Laboratory, Inc., Bethesda, Md., has announced the availability of the 1954 illustrated catalog of the company's testing instruments for the paint and allied industries.

54. Bulletin 202. Clair Manufacturing Company's Model 202 Surface Finishing Machine, a double-roll machine designed for surface finishing of flat or contoured products, is described and discussed in Bulletin 202, available from the company at Olean, New York.

55. Silicone Notes. Data Sheet 7-100 on Silicone-Based Protective Coatings, produced by Dow Corning Corp., Midland, Mich., explains the differences of the three categories of silicone finishes, in terms of performance. Examples are given and general recommended application methods are discussed.

56. Electro-Glo Electro-Polishing. A leaflet describing the Electro-Glo method for finishing copper and copper alloys, explaining preparation and control of Electro-Glo "200" solution, is available from Electro-Glo Co., 1432 So. Talman Ave., Chicago 8, Ill.

57. Specifications for Lacquers. A booklet containing Federal, Military and Army Specifications for several thinners and specialized lacquer products is available from Shell Chemical Corp., 500 Fifth Ave., New York 36, New York.

58. "Behr Facts." An interesting folder discussing the advantages and benefits of using Behr-Cat Nos. 111 and 112 Masking Tape is available from Behr-Manning Corp., Div. of Norton Co., Troy, N. Y.

59. Diaphragm Tanks Promote Plating Progress. Automotive Rubber Co., Inc., 12564 Beech Rd., Detroit 28, Mich., has available an article reprint entitled "Diaphragm Tanks Promote Plating Progress" describing the advantages of diaphragm tanks.

60. Almco DB-50 Barrel Finisher. A data sheet available from Almco Div., Queen Stove Works, Inc., Albert Lea, Minn., fully illustrates and describes the Model DB-50 Barrel Finisher for processing small and medium size lots of parts.

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